2012

Remedying Some Defects in the History of Analyticity

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REMEDYING SOME DEFECTS IN THE HISTORY OF ANALYTICITY

By

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A Dissertation submitted to the
Department of Philosophy
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

Degree Awarded:
Fall Semester, 2012

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John Carpenter defended this dissertation on October 31, 2012.

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ACKNOWLEDGEMENTS

I am delighted to have this opportunity to thank my committee members—Dr. Michael Bishop, Dr. Russell Dancy, Dr. Michael Kaschak, and Dr. J. Piers Rawling—not just for their support and attention directly related to this dissertation, but also for what I have learned from each throughout the years of taking their seminars and enjoying their company. Dr. Dancy, my supervisor, deserves special mention as one who was always willing to share his encyclopedic knowledge of philosophy, and who bore our philosophical disagreements with equanimity. I have benefitted from discussions with, and advice from Dr. Joshua Gert, John K. Harvey, Dr. James Justus, Dr. Tina Talsma, and an anonymous referee for the 15th Annual Oxford Graduate Philosophy Conference. (Of course, neither the committee members, nor any of the other individuals mentioned should be assumed to be committed to, or thought responsible for, any claims or errors that this dissertation may contain.) On a more general note, I am grateful to the departments of philosophy at The Florida State University and The University of Wisconsin-Madison for providing me with opportunities to gain proficiency in the discipline.

I have appreciated the encouragement of my family, not just during my graduate work, but throughout the years, so it is gratifying to be able to here say “thank you” to my mother, father, brother, and two sisters. I am fortunate to have crossed paths with many thoughtful and interesting people in Tallahassee, but I am glad to single out Philip Griffith and Becka LaPlant as people whom I consider friends and colleagues. Finally, my life changed for the better, and continues to do so, ever since the February 22nd, 2008 colloquium reception at the Society for Women’s Advancement in Philosophy conference, when I met Lacey Anderson. During the time of writing this dissertation, we became engaged, and I am sure its completion will mark the next happy phase in our lives together!
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<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Meaning</th>
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<tr>
<td>c.</td>
<td>“Circa” (Latin), indicating that a date is the best approximation.</td>
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<tr>
<td>CE</td>
<td>Common Era.</td>
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<tr>
<td>Df.</td>
<td>Is defined as.</td>
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<td>Esp.</td>
<td>especially.</td>
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<tr>
<td>Ff.</td>
<td>“Folio” (Latin), indicating that the pages of the citation following the initial number mentioned are also relevant.</td>
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<tr>
<td>Fn.</td>
<td>footnote.</td>
</tr>
<tr>
<td>Ibid.</td>
<td>“Ibidem” (Latin), indicating that the source of the citation is the same as that of the previous citation.</td>
</tr>
<tr>
<td>N.B.</td>
<td>“Nota bene” (Latin), indicating that the reader ought to pay careful attention to what is there said, to avoid any misunderstanding.</td>
</tr>
<tr>
<td>Orig.</td>
<td>Date originally published, indicated by the author, or the best approximate date of initial composition (in an untranslated form).</td>
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<tr>
<td>Prop.</td>
<td>Proposition.</td>
</tr>
<tr>
<td>Sic.</td>
<td>“Sic erat scriptum” (Latin), indicating that some part of a quoted passage is quoted verbatim, in spite of possibly being incorrectly presented in the first place (due to, e.g., a printer’s or translator’s error).</td>
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ABSTRACT

To a first approximation, analytic truths are those sentences that are true solely based on, or capable of being known by, semantic facts. The bulk of this dissertation is an investigation into how analyticity relates to the philosophical works of Descartes, Frege, Carnap, Quine, and Williamson. I also discuss some prima facie constraints on analyticity, and provide a survey of the relevant literature on the concept.

Erde suggests that Descartes took “cogito ergo sum” to be analytically true on the basis of conceptual containment. I argue that Erde’s thesis is false for several reasons, one of which is that if Erde’s interpretation were correct, “cogito ergo sum” would have no more import than “I am walking, therefore I exist,” but clearly Descartes thought that it does. Katz argued that though Descartes had a sense of the fact that “cogito ergo sum” is analytic, since Descartes did not have access to the true linguistic theory in which its justification can be formulated, Descartes’s epistemology was provided as an ersatz alternative. I argue that Descartes’s epistemology leaves no room for any amendments from linguistics. In short, Descartes held that “cogito ergo sum” is (1) true solely because it was made true by God, and (2) can be known to be true solely because God gave us the ability to intuit truths; however, Descartes did not appreciate that this account could not convince a skeptic. Finally, for the same reasons that undermined Katz’s view, Díaz failed to show that Descartes’s ontological argument involves analyticity. Nevertheless, I argue that since Descartes held that (1) the idea of God contains necessary existence and that (2) the understanding of words commits us to having the ideas signified by those words, we can know that “God exists” is true simply based on understanding those words.

Though Kant’s subject-predicate containment account of analyticity is superficially different from Frege’s account involving only logic and definitions, I argue that the two are relevantly similar for the following reasons: Kant held a liberal view on what counts as subject-predicate sentences, maintained that analytic judgments ought to increase our knowledge, and advocated logical analysis as the way to determine which judgments are analytic. The substantive difference between Kant and Frege is whether analyticity is grounded in logical analysis based on concepts or definitions. Unlike Kant, who seems to have assumed that none of our concepts are vague, Frege called attention to the vagueness in ordinary language, and recommended that in formal contexts, vagueness be removed by “fruitful” stipulative definitions.
In contrast with the later work of Wittgenstein, Frege thought that ordinary language was flawed for various reasons, the major one of which is that ordinary words, with their vague senses, rarely have perspicuous referents, and hence fail to be capable of capturing the definiteness of truth. Stipulations can ensure perspicuous referents, but such definitions must not invalidate any propositions already commonly accepted or affirm any that are already commonly not accepted, on pain of changing the legitimate subject associated with those words.

Carnap and Quine initially agreed on the characterization of analyticity as only involving rule-governed symbol manipulation, but even this characterization tacitly imported the semantics of logical terms, and Carnap subsequently was convinced that widespread toleration of semantics could generate fruitful results. Quine argued that accepting semantics in this fashion leads to an incorrect account of ontology. Carnap’s view on ontology was “pluralistic” in the sense that ontology varied by language, and languages varied by which sentences were taken to be analytic by the language formulators. Quine’s famous case against analyticity amounts to the insistence that (1) “analytic” is in need of a scientifically respectable explanation, since it is a term of art, and that (2) there is no antecedently clear sense of “analytic” on the basis of which Carnap could use the word, or provide an explication for it. However, I show that Quine eventually gave this objection up and gave an explication of his own. The lasting disagreement between Carnap and Quine was over the usefulness of analyticity.

Williamson’s two main arguments against analytic and synthetic truths being true in different senses are *reductios*. According to him, if “true” were ambiguous, then the standard disquotational principles for true and false sentences, and the truth-tables for sentential logical connectives, would have to incorporate these distinct senses, but it is not possible to do so while keeping the alleged senses of “true” distinct. I argue that in the case of the disquotational principles, Williamson offers an inadequate disambiguation, and when appropriately disambiguated, the correct statuses of the disquotational principles can be demonstrated. In the case of compositional semantics, while Williamson is correct that *characteristic* truth-tables cannot be generally disambiguated, what is important is that the same problem does not apply to *particular applications* of truth-tables.
CHAPTER ONE

INTRODUCTION

1.1. Prima facie Constraints on any Conception of Analyticity

Analyticity is the property of being analytic and, when discussed, analyticity is talked of as (if it were) a concept.¹ Since “analytic” is a term of art for philosophers, any discussion of analyticity ought to begin with a characterization of this term, so that non-philosophers can be taught its meaning, and philosophers reminded of its use. Any attempt at such a characterization is fraught with difficulties, however, for the following reasons:

- The term “analytic” has been used in a variety of ways throughout the history of philosophy, some of which are incompatible with one another. Gasking claims that “[t]here are roughly nine traditional definitions of analyticity” (1972, p. 108), and according to Garver, in Kant’s work alone, “[o]ne can identify passages [in] which….we have a total of twelve theories of analyticity contained in or suggested by Kant’s discussion” (1967, p. 397).

- The English term “analytic” (by way of the German “analytisch”) only started being used in the modern era. However, if analyticity is a concept instantiated in either natural—“everyday”—or artificial—“formal”—languages (as many philosophers suppose it is), there is good reason to suspect that there had been recognized cases of analyticity prior to anyone using the term “analytic,” since both natural languages (e.g., Greek) and artificial languages (e.g., Euclidean geometry) were around long before the term. It is presumptuous to think that two millennia of philosophers were blind to a feature of language that, if the reader holds a view incompatible with the existence of properties and concepts, the following may be a more palatable way to start the discussion (and continue mutatis mutandis): “Analyticity’ refers to the set of entities called ‘analytic.’” There is no theory-neutral way to characterize analyticity, but there are incorrect ways to do so. In Analyticity (2010), Juhl and Loomis mischaracterize their eponymous term: “Analyticity, or the ‘analytic-synthetic’ distinction, is one of the most important and controversial problems in contemporary philosophy” (back cover and immediately inside the front cover) and “This work is an introduction to the problem of analyticity, or the analytic-synthetic distinction” (p. ix). In these cases, the “or” cannot be taken to be a disjunction, since it is implausible to think that the authors intended to point out that one or the other of analyticity and the analytic-synthetic distinction is one of the most important problems in philosophy. But taking the “or” as setting up an identity, or at least an explanatory connection, cannot be correct either. Analyticity is no more a problem or a distinction than simplicity is a problem or a distinction, though there are problems and distinctions involving analyticity. The clearest place where Juhl and Loomis (2010) allude to the appropriate characterization of analyticity is in their glossary, when they write (in the joint entry for “analytic/analyticity”) that “analyticity has been taken to be a property of sentences, propositions, judgments, or statements” (p. 269). In an earlier encyclopedia entry of the same title, Juhl and Loomis had started in a more appropriate manner: “Analyticity can be characterized vaguely as follows. Analytic sentences, statements, or propositions are…” (2006, p. 11).

¹ No particular view on metaphysics is meant to be advocated here by use of the terms “property” and “concept.”

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according to many philosophers, some simple sentences obviously have. Thus, we need to allow for the possibility that philosophers had discussed the concept in the past while using different terminology—analyticity by any other name would serve as significant a role, as it were.

- Even once the term became part of the philosophical parlance in English, many non-English-speaking philosophers have clearly intended some of their remarks to involve the concept of analyticity, but it is frequently a substantive question as to whether the terms they used are, in fact, most appropriately translated as “analytic.”

- To this day, there are philosophers attempting to explicate “analytic” in new senses (that avoid putative problems with old senses). The process of attrition on “analytic” is still underway, so we cannot expect to have a sufficiently polished conception in the meantime.

- Quine, one of the most important contributors to the literature on analyticity, famously argued for (though less famously rescinded) the claim that there is no legitimate concept expressed by “analytic.” To assume that “analytic” expresses a concept—i.e., that analyticity is a genuine property—is to ignore, if not beg, a crucial question in the debate.

- We must allow for the possibility that some philosophers have used the term “analytic” incorrectly, in the sense that some other concept has, on occasion, wittingly or unwittingly been expressed by the term.

While these points show that it is unrealistic to hope for a straightforward identification between analyticity and any given philosopher’s use of the term “analytic” (or its related terms), this does not diminish the apparent legitimacy of any given use of the term(s). Since philosophers are not in the business of obfuscating terminology, a fair assumption is that they intend to use terms in ways that are consistent with prior use, unless explicitly breaking from convention.

The only claims about “analytic” with which nearly all philosophers have clearly intended to be in accord is this: anything that is truth-apt (capable of being true or false) is either “analytic” or “synthetic”; and if something is “analytic,” then it is not “synthetic,” and vice versa. This is hardly illuminating, however, since the burden of explaining analyticity is shifted onto explaining the complementary concept, syntheticity. For the sake of dealing with a single concept, I will take “analytic” as the basic term and “synthetic” as the derivative one.

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3 Discussion of Quine’s views is found in Ch. 4, below.
4 E.g., Sober (2000, p. 239) argues that Quine’s “stimulus analytic” (1960) and “analytic” (1974, p. 79) are not consistent with the usual constraints on “analytic” (unless one interprets Quine, implausibly, as endorsing a more orthodox take on “meanings”). Quine’s 1974 explication of “analytic” is discussed starting on p. 104 below.
(i.e., “synthetic” is here stipulated to mean “not analytic”). Beyond the mutual exclusion and joint exhaustiveness of the extension (things which qualify as, instantiate, satisfy, or of which “analytic” and “synthetic” can be truly predicated), only broad, general features can be ascribed to the terms:

A) “Analytic” and “synthetic,” if they express any concepts, express semantic concepts—i.e., they crucially involve linguistic meaning(s).

B) When analyticity is taken to be a metaphysical concept, analytic truths (or analytic judgments) are true solely based on linguistic meanings, or concepts. Analytic falsehoods are false in a like manner.

C) When analyticity is taken to be an epistemological concept, analytic truths (or analytic judgments) are capable of being known to be true solely based on linguistic meanings, or concepts. Analytic falsehoods are capable of being known to be false in a like manner.

D) If asked to demonstrate whether something is analytically true, the traditional strategy is to show that the negation of the sentence (that, perhaps, expresses the relevant proposition or judgment) is logically equivalent to some contradictory statement (e.g., “Fish have gills and it is not the case that fish have gills,” or “0 = 1”).

E) “Analytic” is intended to capture (at least some of) the unique properties of those cases when non-philosophers would say of some claim that it is true “by definition” or “because one part of the sentence is just what the other part(s) mean.”

These clauses hardly characterize a unique concept. For pedagogical purposes they are nearly always supplemented with, if not supplanted by, paradigmatic examples. The following kinds of sentences (or propositions or judgments corresponding to these sentences) have almost universally been taken to be (or express) analytic truths:

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5 This is as it should be in order to avoid the trap into which the young Ayer (1936/1946/1952) fell—namely, to “say that a proposition is analytic when its validity depends solely on the definitions of the symbols it contains, and synthetic when its validity is determined by the facts of experience” (p. 78). Whether these two categories are mutually exclusive and jointly exhaustive is a substantive claim for which an argument would be needed.

6 For a short time, Carnap held that analyticity was a purely syntactical concept, but even then he meant “purely on the basis of syntax, given the semantics of logico-mathematical terms in a language.” See pp. 75ff, below, for a discussion.

7 Carnap always thought that the philosophical concept of analyticity is an explication—i.e., useful precisification—of whatever vague concept philosophers have produced based on these everyday claims (the “explicandum”). Explications need not preserve all properties of an explicandum. See the discussion starting on p. 93, below.
1) Mortarboards are the same as mortarboards. (Truths based on, or capable of being known by, the semantics of redundancy and reflexive relations.)

2) Flammable substances are capable of being set on fire. (Truths based on, or capable of being known by, the semantics of synonymy and identity.)

3) All delectable foods have a taste, at least for some people. (Truths based on, or capable of being known by, the semantics of subject and predicate conceptual containments.)

4) No song will ever go supernova. (Truths based on, or capable of being known by, the semantics of some category mistakes.)

5) Pure water boils at 100°C, at a standard atmospheric pressure (760 mm Hg). (Truths based on, or capable of being known by, semantic fiat.)

6) If Will met Christine, then Christine met Will. (Truths based on, or capable of being known by, the semantics of symmetric relations.)

7) If the Statue of Liberty has more floors than the Eiffel Tower, and the Empire State Building has more floors than the Statue of Liberty, then the Empire State Building has more floors than the Eiffel Tower. (Truths based on, or capable of being known by, the semantics of transitive relations.)

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8) Lacey (1976) points out that there are reasons to question whether redundancy, by itself, is sufficient for analyticity: “Does ‘The fat cow which I see is fat’ make an analytic statement, although it apparently implies the synthetic statement that I do see a cow?” (p. 7)

9) Cf. “Emotions are not emotions.” (Analytic falsehoods, based on, or capable of being known by, the semantics of redundancy and irreflexive relations.)

10) Cf. “What is new is old.” (Analytic falsehoods, based on, or capable of being known by, the semantics of antonymy and identity.) “New” and “old” have to be taken here in the same senses, since a new car can have an old design.

11) The standard example of an analytic, subject-predicate containment sentence is “all bachelors are male,” but for the reasons that I give on p. 120 below, I believe that (3) is a clearer case.

12) Cf. “All grandmothers are childless.” (Analytic falsehoods, based on, or capable of being known by, the semantics of incompatible subject and predicate conceptual containments.) This example is a modified version of one given by Munsat (1971, p. 5). In case the reader worries about the following ambiguity in “grandmother,” I am inclined to say that a miniature replica of a grandmother should no more be thought to be a grandmother in this context than Ken (of Ken and Barbie fame) thought to be a bachelor. But, if the reader has different intuitions on such cases, he or she would have to allow that miniature replicas of granddaughters should be considered to be capable of the appropriate familial relation with the “grandmother.” Or, perhaps, “all biological grandmothers are childless” would remove the ambiguity.

13) Of course, some category mistakes result in semantic non-sense (even though grammatical). For example, “colorless green ideas sleep furiously” (Chomsky, 1957/2002, p. 15)

14) Cf. “At least some brooms have gravitas.” (Analytic falsehoods, based on, or capable of being known by, the semantics of category mistakes.)

15) This example is from Bunge (1961, p. 241). Some may wish to add the rider, “Pure water…in the actual world.”

16) Cf. “The American dollar has the monetary value equivalent to 105 American pennies.” (Analytic falsehoods, based on, or capable of being known by, contradicting authoritative semantic decrees.)

17) Cf. “The Sphinx is older than the Space Needle and the Space Needle is older than the Sphinx.” (Analytic falsehoods, based on, or capable of being known by, the semantics of asymmetric relations.)

18) Cf. “For all $x, y, z \neq 1$, if $x$ is the square root of $y$, and $y$ is the square root of $z$, then $x$ is the square root of $z$.” (Analytic falsehoods, based on, or capable of being known by, the semantics of intransitive relations.)
8) Since Machu Picchu is in the Cuzco Region of Peru and the Cuzco Region of Peru lies entirely in the Southern hemisphere, Machu Picchu is in the Southern hemisphere. (Truths based on, or capable of being known by, the semantics of conditionalized valid argument forms.)

And, of course, combinations of these would count as paradigms of analyticity. For example, “If the tennis doubles champions get a trophy and Federer is a doubles champion, then Federer’s teammate gets a trophy” would be an analytic truth based on, or capable of being known by, the semantics of a conditionalized valid argument form and a subject and predicate conceptual containment (of the second conjunct in the antecedent).

Though the analyticity of the following cases has been disputed far more often than the analyticity of (1)-(8), it is worth noting that the following sentences have so often been taken to be (or express) analytic truths, they might also be considered (provisional) paradigms:

9) Either Francis Bacon wrote Hamlet or it is not the case that Francis Bacon wrote Hamlet. (Truths based on, or capable of being known by, the semantics of certain logical terms—this example is often called “the law of excluded middle.”)

10) 27 + 31 = 58. (Truths based on, or capable of being known by, the semantics of arithmetical terms.)

11) Premeditated murder is morally wrong. (Truths based on, or capable of being known by, the semantics of moral terms.)

12) Nothing can simultaneously be colored both green all over and red all over. (Truths based on, or capable of being known by, the semantics of color terms—often called “color exclusion” and “color incompatibility.”)

13) “Given any straight line and a point not on it, there exists one and only one straight line which passes through that point and never intersects the first line, no matter how far they extend” (Szudzik & Weisstein, 2012). (Truths based on, or capable of being known by, the semantics of certain geometrical terms—this example is often called the “parallel postulate.”)

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19 Cf. “Dust is always metallic, so it is not the case that dust is always metallic.” (Analytic falsehoods, based on, or capable of being known by, the semantics of conditionalized argument forms that have no instantiations with true premises and a true conclusion.)

20 Stephen Kearns pointed out to me in conversation that not only might this claim not be an analytic truth, it might not even be true. If time travel (of a certain sort) is in fact possible, then given times $t_0$ being before $t_1$, and $t_1$ being before $t_2$, a green-all-over-object at $t_1$ could very well be red-all-over at $t_2$ if some painter at $t_2$ went back in time to $t_0$ to rubricate the object.

21 One might think that this does not qualify as a paradigm of analyticity since the emergence of non-Euclidean Geometry has demonstrated that this claim need not be taken as true in a pure geometrical sense, and Einstein’s general relativity has shown that it is (probably) not true in a physical sense. However, given the fact that so many individuals thought it was obviously true prior to these developments, the possibility should be taken seriously that the non-Euclidean and relativistic geometries may have altered the meaning of “straight line,” rather than shown that parallel straight lines (in a pre-theoretical sense, meant to be captured by Euclid) can intersect.
In this context, any of the paradigmatic examples (whether ([1]-[8] or [9]-[13]) are defeasible as cases of analyticity, since, until shown otherwise, there might be good reason to single one “paradigm” out as being relevantly different (vis-à-vis the most interesting concept associated with “analytic”) from the other paradigms. Though I am not familiar with any philosopher who advocates degrees of paradigmatism, if such a thing makes sense, (9)-(13) might be thought of as being less paradigmatic than (1)-(8), but still having a degree meriting paradigmatic status. Or perhaps paradigmatism is a vague concept and (9)-(13) are borderline paradigms.

The predicament we face when it comes to clarifying analyticity to everyone’s satisfaction (including mid-Century Quine’s) may ultimately be like Augustine’s quandary over “time”:

> what in speaking do we refer to more familiarly and knowingly than time? And certainly we understand when we speak of it; we understand also when we hear it spoken of by another. What, then, is time? If no one ask of me, I know; if I wish to explain to him who ask, I know not. (c. 400 CE/1876, p. 301)

Now that the *prima facie* constraints on analyticity, provided by (A)-(E) and (1)-(13), are explicit, I hope both the author and the reader have a working conception, or strong enough sense of analyticity to proceed with the subsequent discussion.

### 1.2. A Brief Apology for Analyticity

While these properties and paradigms tend to suffice for the purpose of helping someone work with or be reminded of the concept of analyticity, besides leaving much specificity to be desired, they do not by themselves show that analyticity is a concept of philosophical interest. Why then should we care about analyticity?

First, the aspirations that philosophers have had for the concept cannot be overestimated. Analyticity has held out the promise of being the philosopher’s stone, capable of transmuting “gold is a metal” into truth and knowledge. Analyticity has been thought to underlie mathematics, science, modality, and even God’s existence. Analyticity has been thought to be the demise of monstrous color combinations, natural properties being the bearers of value, and perhaps philosophy itself (via the paradox of analysis). All of this is surely worthy of careful attention. Even if analyticity is unable to satisfy any of those prospects, it is, if anything, unquestionably related to truth and falsity, knowledge, semantics, and perhaps also to logic,
mathematics, morality, and metaphysics—if those things are interesting, then so is analyticity to the extent that the relations hold. To ask a philosopher “why care about truth and falsity, or knowledge, etc?” will of course prompt a practical response along the lines of: “the more truths, knowledge, etc. we have, the more control we can gain in the world.” Be this as it may, I suspect that many philosophers would also unashamedly admit that they are simply interested in truth, and the rest, for their own sake.

A distinct reason to care about analyticity, and the one central to this dissertation, is that analyticity serves as an essential component in the proper elucidation of the work of numerous historically important philosophers. Nearly all students of western philosophy are taught (and contemporary philosophers who were once such students, were also taught) a canonical tale of how analyticity is woven into the history of philosophy. The story goes as follows: analyticity first appeared in the work of Kant, where he defined it as an instance of a predicate being contained in a subject concept; Frege’s philosophical mission was to reduce mathematics to logic and, in the process, he broke from Kant’s conception to one involving an application of the rules of logic to definitions; Carnap, and the other logical positivists, attempted to do away with metaphysics by utilizing analyticity grounded in linguistic conventions (in conjunction with the verifiability theory of meaning); and, finally, Quine successfully argued against logical positivism and, in the process showed that analyticity is not a useful, or even coherent, concept. Though Williamson’s work is too near to us for it to be considered part of the historical canon, current graduate students are being taught of Williamson’s attack on analyticity, and I suspect that once this generation is tenured (assuming that tenure exists for the next generation), they may herald Williamson’s work as the death knell of analyticity, since he argues so impressively from a non-Quinean perspective, that analyticity has no important role to play in philosophy. However, if the bulk of this dissertation is correct, then the way that analyticity is typically taught is often misleading, and sometimes demonstrably mistaken. I hope that the following remarks on analyticity will remedy some of the defects in the history of philosophy by (1) bringing about a better appreciation of the nuances involved in the works of Descartes, Frege, Carnap, Quine, and Williamson, among the others discussed; and (2) providing a cogent case in support of the claims that analyticity remains one of the most important concepts in epistemology and the philosophy of language, and that the next generations of philosophers ought to be given a less prejudiced treatment of it.
CHAPTER TWO

DESCARTES AND ANALYTICITY

Nearly all historical discussions of analyticity commence with the work of Kant, for good reason. In the *Critique of Pure Reason*, Kant was the first to use “analytisch” to express something meeting the *prima facie* constraints on analyticity set out in the Introduction, and his term was almost immediately, and is now uniformly, translated into English as “analytic.” Kant seems to have thought that he was the first to see the importance of, if not call attention to, the distinction between analytic and synthetic judgments.

That metaphysics has until now remained in such a vacillating state of uncertainty and contradictions is to be ascribed solely to the cause that no one has previously thought of this problem [namely, how synthetic judgments *a priori* are possible] and perhaps even of the distinction between analytic and synthetic judgments.

(Kant, 1787/2008, p. 146, B19)

The “perhaps,” of course, indicates that Kant was not aware of anyone “thinking of” the analytic-synthetic distinction, while allowing for the possibility that someone nonetheless had thought of it. I shall take this “perhaps” seriously and not assume that Kant is the starting point for the history of analyticity. There has already been a significant amount of work done exploring analytic-like concepts in the works of Locke, Leibniz, and Hume, so my mission here is to fill a lacuna in the literature relating to their most illustrious modern predecessor, Descartes.

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22 According to the *Oxford English Dictionary* (analytic, n. and adj., 2012), the first appearance of “analytic” (in the relevant sense) in English is from Richardson’s translation of Kant’s *Logic* (1800/1819). In the first three complete English translations of the *Critique*, Haywood (Kant, 1787/1838), Meiklejohn (Kant, 1781/1787/1855/1901), and Müller (Kant, 1781/1881) all translated “analytisch” as “analytical.” However, in the fourth complete English translation, Kemp Smith (Kant, 1781/1929/1965) substituted “analytic,” and all subsequent English translators have preferred Kemp Smith’s translation to any others.

23 Though Kant first published a discussion of the analytic-synthetic distinction in the 1781 edition of the *Critique*, Guyer and Wood point out that “the appearance of the distinction in the *Critique* was the product of a long gestation. The distinction appears in Kant’s marginalia to his copy of Baumgarten’s *Metaphysica* as early as 1764-66” (in Kant, 1781/1787/2008, p. 717, note 4).

24 Cf. the following passage from a footnote in Kant (1781/1929/1965, p. 51, A10): “If it had occurred to any of the ancients even to raise this question [of how synthetic *a priori* judgments are possible], this by itself would, up to our own time, have been a powerful influence against all systems of pure reason, and would have saved us so many of those vain attempts, which have been blindly undertaken without knowledge of what it is that requires to be done.”


2.1. Erde’s Interpretation

There are only three works, of which I am aware, in which a philosopher investigates a possible connection between analyticity and Descartes’s philosophy. The first of these is Erde (1975), where the author argues that Descartes’s famous “cogito ergo sum” is analytic. “Cogito ergo sum” is popularly translated as “I think, therefore I am,” but since Descartes stressed that awareness of one’s present thought is an indispensable component of knowing the truth of the sentence (or the proposition expressed by the sentence), and emphasized that existence is such an important “notion,” a better translation is “I am thinking, therefore I exist.”

Exactly how we are able to know that this is true, however, is a matter of controversy. As Erde points out, three common interpretations of how Descartes thought we are justified—or, at least, he was justified—in inferring “I exist” from “I am thinking” is on the basis of (1) intuition, (2) syllogistic reasoning—i.e., deductive argumentation—and (3) the nature of “performatives.” (1) was explicitly endorsed by Descartes; he wrote, “When someone says ‘I am thinking, therefore I am, or I exist,’ he…recognizes it as something self-evident by a simple intuition of the mind” (1641/1984, p. 100; AT VII, 140). This “simple intuition” cannot be the same as the grasp of a deductive argument, however. In an early work, Descartes wrote

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27 See Pap (1958/1966, esp. Ch. 4); Atkinson (1960); Zabeeh (1960, esp. Ch. 4); Benardete (1962); Suchting (1966); Gotterbarn (1974); Cohen (1977); Beck (1978); Proust (1986/1989, esp. Sec. 1, Ch. 2); Dicker (1991); Massey (1991); Backhaus (1994); Wright (1999), assuming that “Hume’s Principle” is Humean; Meeker (2007); Juhl and Loomis (2010, esp. Ch. 1, Sec. 2); and Meeker (2011).

28 The widespread practice of discussing “the cogito” is infelicitous. In some contexts, commentators take “the cogito” in a literal sense (i.e., as translating the Latin word “cogito” into the English sentence “I am thinking”); in other contexts they take “the cogito” to be an abbreviation of the entire sentence “I am thinking, therefore I exist”; and occasionally even as “I am, I exist (the Cogito)” (Beyssade, 1992, p. 183). This ambiguity allows for the following sentence to be well formed: “The first cogito part of the cogito is more important than the second cogito part of the cogito.” In order to prevent such confusing constructions and to deter equivocation between the different senses, I avoid using “the cogito” and disambiguate it as charitably as possible when quoted authors used it.

29 Katz (1986, pp. 15ff) argues, convincingly as I see it, that by “syllogism,” Descartes did not restrict himself to Aristotelian categorical arguments (i.e., those exclusively involving the A-, E-, I-, and O-sentences discussed in many critical thinking and logic textbooks), but rather has the scope of what we would now consider deductive arguments, generally.

30 “Performatives” is not a term used by Descartes, but one that emerged out of Austin’s groundbreaking work on speech act theory. See esp. Austin (1961/1979b).

31 This is only part of a larger, important passage, discussed below on p. 25.

32 Since this work will be drawn upon heavily in this chapter, let me say at the outset that I am in full agreement with Cottingham when he writes that, “despite its early date, and its unfinished state[,] Descartes (c. 1628/1985) is an extremely valuable source for Descartes’ views on knowledge and method; it lays down, with remarkable clarity, what were to become the central planks of the Cartesian programme for philosophy and science” (1993/1994, p. 152).
“intuition is the indubitable conception of a clear and attentive mind which proceeds solely from the light of reason. Because it is simpler, *it is more certain than deduction*” (c. 1628/1985, p. 14; AT X, 368, emphasis added). Since intuition and deduction have different properties—namely, different degrees of “certainty”—interpretations (1) and (2) are incompatible. However, and in spite of Descartes’s remarks, philosophers with a penchant for seeking arguments and a dislike of intuitive faculties have searched for and seemingly found passages where Descartes was attempting to take “I exist” to be the conclusion of an argument having “I am thinking,” or something close to it, as (one of) the premise(s). The final standard interpretation involves a sort of practical demonstration. Performatives are instances where language is used not merely to report what is the case (i.e., say something that is true or false), but to actually make something the case. For example, if you say “I promise to get you flowers next Valentine’s day,” you have made a promise where there was none before (and now other claims about your promise can be true or false). Some philosophers have interpreted “I am thinking, therefore I exist” as crucially involving performatives. According to Hintikka,

> We may now appreciate the function of the word *cogito* [“I am thinking”] in Descartes’s sentence as well as his motives in employing it. It serves to express the performatory character of Descartes’s insight; it refers to the “performance” (to the act of thinking) through which the sentence “I exist” may be said to verify itself. (1962/1965/1968, p. 123)

The idea here is that just as there is a peculiar kind of contradiction in actually starting a chapter of a book with “I cannot start this chapter,” there is a peculiar kind of confirmation of the sentence “I exist” by thinking it. Erde’s main thesis—that in the *Meditations*, Descartes took “cogito ergo sum” to be analytic—is offered as a fourth, competing interpretation.

Unfortunately, for most of his discussion, Erde uses an idiosyncratic stipulative definition of “analytic,” which is not consistent with the set of *prima facie* constraints on the concept of analyticity set out in the Introduction. Nevertheless, Erde makes the following suggestive

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33 For example, Dicker (1993, pp. 53-56) gives a five premise reconstruction of “Descartes’s reasoning,” and Markie (1986, pp. 165-170) gives an eight premise reconstruction (many of which are instantiations of more general principles), intended to rectify the problem that “Descartes’s argument needs tightening” (p. 168).

34 As Sorensen (2003/2005, p. 162) does (in order to illustrate this very point).

35 For a criticism of Hintikka’s interpretation, see Kenny (1968, pp. 41-49).

36 Erde mistakenly singles out the *Meditations*, but “cogito ergo sum” does not occur there. See fn. 87.

37 Erde writes, “I propose that...an analytic truth is [...] a step toward a definition; it is not so much true by definition (for we do not have the definition) as true for the sake of defining” (1975, p. 79). One of Erde’s main goals is to show that “Descartes’ primary enterprise in the *Meditations* is to define the concept self or, alternatively, to describe the self” (*Ibid.*). This, by itself, is a questionable thesis. Conceptual analysis is a relatively recent phenomenon.
remarks, that are independent of the rest of his discussion, and which are consistent with how
“analytic” has been used by other philosophers:

“Cogito” could be translated “I think” and it could also be translated “I am thinking.” The latter translation is apparently (but not really) of subject-predicate form. Conceptually contained in the thinking of the thinker by use of the word ‘I’ would be the commitment to that I being a thinker or thinking. And, of course, the word ‘cogito’ entails a first person reference by virtue of the conjugation of the verb. (1975, pp. 79-80; quotation marks are as in the original)

Here, Erde is clearly suggesting that “cogito” appears to be analytic in the following sense, often associated with Kant: a sentence in subject-predicate form is analytic when the predicate concept is “contained” in the subject concept. If Descartes was arguing for the semantic point that “I” means “a (certain) thinking thing,” then it seems that this characterization of the subject does contain what is being predicated in “cogito”—namely “is (am) thinking.” But even if “cogito” (“I am thinking”) is analytically true, that truth was not sufficient for Descartes’s purposes. In the fifth Meditation, Descartes wrote,

[Though] I cannot think of a mountain without a valley, it certainly does not follow from the fact that I think of a mountain with a valley that there is any mountain in the world...For my thought does not impose any necessity on things.
(1641/1984, p. 46; AT VII, 66)

While it is not acknowledged, I believe Descartes’s worry here is precisely why Erde sees it fit to add that “cogito” entails a first person reference and thinks that Descartes held that “cogito ergo sum,” rather than merely “cogito,” is analytic. If Descartes had rested satisfied with the

Up until the time of Locke, the bearers of definitions were most commonly thought (by, e.g., Plato and Aristotle) to be “things.” (There were, of course, occasional metaphysical “nominalists” and “conceptualists” throughout the history of philosophy—roughly speaking, those rejecting abstract entities, or universals, and claiming that what is “common” between particulars is simply the names, or concepts, that we associate with them—but realists—those who accept abstract entities, or universals, which can be “shared” among particulars and do not depend on us having the names or concepts for them—were, by far, more prevalent.) One problem for Erde, is that Descartes gave every indication that he followed the trend of attempting to seek the essences of things, rather than words or concepts. As Robinson (1950/1954, p. 9) points out, the theory “according to which that which is defined is neither a word nor a thing but a concept, has arisen and maintained itself, modestly in most countries, luxuriantly in Germany. It is expressed, for example, in Kant’s [work].” In Erde’s footnote 2, then, he simply expresses a false belief: “Even if it is a confusion or a conflation to think of describing and defining as [equivalent] alternatives, I believe they are so construed in what Descartes does” (1975, p. 85).

38 Though the caveat that “I am thinking” is “not really” of subject-predicate form seems to undercut the point. See fn. 45 for additional discussion.
39 Strictly speaking, Kant’s theory of analyticity was based on judgments, not sentences.
40 Cf. Descartes (1641/1984, pp. 82-84; AT VII, 115-119).
41 Erde does not acknowledge that Geach (1957/1971, pp. 117-121) had argued against the claim that “cogito” entails a first person reference. Moreover, in the same year that Erde’s paper was published, Anscombe (1975) also argued against Erde’s assumption.
analyticity of “cogito,” then what he had shown would be on the order of “a mountain has a valley” and his critics could have objected that he has not demonstrated that he (the “I” in his Meditations) exists. In fact, it would even seem that Descartes has not even shown that he possibly exists, since “cogito” would seem to be analogous not just to “a mountain has a valley,” but also to “a circular-square has four sides.” Instead, Descartes does stress that “I exist” is indubitable. Erde’s suggestion is then that conceptually contained in “cogito” (in English, the “I” portion of “I am thinking”) is a tacit “is a thing that exists.” Thus, the analyticity of “cogito ergo sum” is actually a two-fold one—“is (am) thinking” and “is (am) a thing that exists” are conceptually contained in “I.”

I see four problems with Erde’s discussion here. First, Erde has not offered a new interpretation of why Descartes thought we could know that “cogito ergo sum” is true—if Erde is right, “cogito ergo sum” is the conclusion of an argument that simply involves analyticity. This, then, would be an instance of standard interpretation (2). Second, Descartes talked in terms of what he is (e.g., “I am a thinking thing”), rather than what “I” means. Though he does make semantical points when it comes to certain other words—e.g., “God,” discussed below—since “I” is not one of them, there is no good reason to think that Descartes held that the inference in “I am thinking, therefore I exist” is based in semantics. Third, if “is (am) a thing that exists” is conceptually contained in “I,” then “is (am) thinking” does no work at all, in terms of justifying existence. “I am thinking, therefore I exist” would have no more import than “I am walking, therefore I exist,” but clearly Descartes thought that it does. Moreover, unless standard interpretation (3) is presupposed, there are “first person” sentences which do not entail that there is something that “I” actually denotes. For example, “I am 900 years old” is simply a false sentence for all (presently existing human) Is. Fourth, it must be acknowledged that treating existence as a predicate is highly problematic. There is a general presumption among philosophers that Kant decisively showed that existence is not a predicate, and that Frege explicited the proper logical formalism allowing for existential quantification, without

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42 Strangely, Erde ends up saying that any one of interpretations (1)-(3) might be the case: “The postulated cogito ergo sum may be indubitable because it is a self-fulfilling performance or it may be an inference or an intuition. But it is needed because it is the concept and names the object which will be unpacked…” (1975, p. 84). (Cf. fn. 37.) This directly contradicts the opening sentence of his paper: “I am going to propose a fourth interpretation of the cogito as a rival to three well-known interpretations” (1975, p. 79, fn. omitted).

43 Besides the conspicuous emphasis on thought throughout his works, Descartes explicitly addresses this issue here: “To Reneri for Pollot” (Descartes, trans. 1991 [orig. 1638], p. 98; AT II, 37-38), Descartes (1641/1984, p. 123; AT VII, 174), Descartes (1641/1984, p. 244; AT VII, 352), and Descartes (1644/1985, p. 195; AT VIII A, 7-8).
existential predicates.\(^{44}\) At the very least, then, any philosopher whose discussion involves existence being a predicate needs to acknowledge, if not argue against, Kant and Frege.\(^{45}\)

### 2.2. Katz’ Interpretation

In Katz’ *Cogitations* (1986), there is a far more detailed, and sophisticated, defense of the claim that Descartes’s “cogito ergo sum” is analytic, than is found in Erde (1975). Though Katz’ defense amounts to the explicit thesis of *Cogitations*, most of the book is devoted to arguing that many of the philosophers who are famous for their discussions of analyticity\(^{46}\) had serious misunderstandings amidst their legitimate contributions. Katz’ primary (though tacit) goal was to sketch a theory of semantics analogous to Chomsky’s theory of syntax, which remedies the defects in other philosophers’ accounts of analyticity\(^{47}\); his secondary goal was to argue that the analyticity of “cogito ergo sum” is a corollary of his semantic theory.

According to this theory, “cogito ergo sum” is one in a class of formally valid inferences that are not valid in virtue of instantiating a law of logic. Using standard syntax of sentential and predicate logic, I assume that Katz would have agreed that the following argument forms are some of the “laws of logic” that he had in mind when he wrote of the widely accepted “doctrine that all valid inferences depend on subsumption of the step(s) from the premiss(es) to the conclusion under a sequence of logical (or perhaps mathematical) laws” (1986, pp. 13-14):

\[
\begin{align*}
(L1) & \quad P \Rightarrow Q \\
& \quad P \\
& \quad Q
\end{align*}
\]

\(^{44}\) See discussion on p. 59 below.
\(^{45}\) There are two things to say in Erde’s defense relating to this last objection, however. First, perhaps his intention was to stick as closely as possible to Descartes’s actual argument, and Descartes, who lived a over a century before Kant gave his criticism, could not be expected to have addressed the worry about the illegitimacy of existence as a predicate. Second, perhaps sympathy with Kant’s argument is why he adds the emphasis and parenthetical rider in “‘Cogito’… is apparently (but not really) of subject-predicate form.” If he is just presenting this discussion as why others might mistakenly think “cogito ergo sum” is analytic, then he himself ended up giving no argument for that thesis, since his official account of analyticity (discussed in fn. 37) is too idiosyncratic to be considered consistent with how other philosophers have used “analytic.”
\(^{46}\) In particular, Kant, Frege, Carnap, and Quine. Katz maintained that among the great philosophers, Locke was closest to having a correct conception of analyticity.
\(^{47}\) See fn. 312 below for references to other works where Katz developed this view.
\(^{48}\) Boldface type here is meant to indicate that these argument forms are schema in a metalanguage. That is, here, the argument form does not essentially involve some specific sentences named by “P” and “Q”; instead, “P” and “Q” are metavariables that range over any sentences of a given object language that are truth-apt.
(L1) is a formalization of modus ponens and (L2) is a formalization of one version of quantifier
negation. These argument forms are valid, when instantiated, since it is impossible for the
conclusion of the arguments to be false if all of the premises are true.\(^{50}\) In contrast to (L1) and
(L2), the following argument form is patently invalid, when instantiated:

\[
\begin{array}{c}
\text{(Inv)} \\
\quad \text{P} \\
\quad \text{Q}
\end{array}
\]

Simply substituting a true sentence for “P” (e.g., “there was no precipitation measured at the
Tallahassee, FL airport on 11/11/2011”) and a false sentence for “Q” (e.g., “there was
precipitation measured at the Tallahassee, FL airport on 11/11/2011”) demonstrates that the
(Inv) schema has instantiations where all of the premises are true and the conclusion is false.
Moreover, since there are infinitely many false sentences that can instantiate “Q,” there are
infinitely many unique cases where there is a true premise (e.g., the instantiation for “P” in the
previous example) and a false conclusion. Given this fact (and some other considerations),
“P, therefore Q” must be considered to be a form of inductively weak arguments, in addition to
being a form of invalid arguments. In other words, “P, therefore Q” is a bad argument form.

This is worrisome here since “I am thinking, therefore I exist” seems to be an instance of
(Inv), where “I am thinking” is substituted for “P” and “I exist” is substituted for “Q.” The
obvious way to get around the conclusion that Descartes made “a logical blunder of staggering
proportions” (Katz, 1986, p. 13), is to assume that Descartes gave an enthymematic argument—

\(^{49}\) Here “x” is a metavariable ranging over variables in the object language, and “P” is a metavariable ranging over
predicate logic formulae, with only one free variable—namely, the variable corresponding to “x.”

\(^{50}\) How we can know, or justify to someone who does not know, that these are schema for valid arguments is a
difficult question (though rarely acknowledged as such). The way that validity is typically taught to students is to
challenge them to come up with a case when the premises are true and the conclusion is false. When they fail,
they agree that the arguments of that form must be valid. However, the fact that students (or professionals) have
always failed to imagine an instance of a given schema that demonstrates invalidity does not demonstrate
impossibility of there being such a case. Attempting to demonstrate validity using logic, rather than psychology,
embroils one in circularity. (See esp. Carroll [1895] and Quine [1936/2004].) In the present context, however, since
Katz was not questioning the legitimacy of logical validity, this issue need not be engaged.

\(^{51}\) This is guaranteed by the recursive nature of any robust language (such as predicate logic or English). If R is false,
then so is R & S, R & (S & T), R & (S & (T & U)), etc.

\(^{52}\) One might think that infinitely many instantiations demonstrating invalidity are not sufficient to demonstrate
inductive weakness, since there are infinitely many instantiations where the premises are true and the conclusion is
true—if R is true, one can substitute R v S, R v (S v T), etc. for “Q.” For an invalid argument to not be inductively
weak, however, the conclusion of the argument must be more “likely,” “probable,” or (my favored term) “plausible”
given the premises. In each of the infinitely many substitution instances of (Inv) with true conclusions,
the plausibility of the conclusion is completely independent of the status of the premise.
i.e., one where premises were originally unstated, but which can reasonably be assumed in exegesis. But this too seems wrong. Regardless of whether or not Descartes had good arguments, he certainly tried to have good arguments—when it came to epistemology, Descartes prized clarity and distinctness as much as anything else. Since it is exceedingly implausible, then, to suppose that Descartes failed to clearly separate out as much information as possible when he could have, why would he have failed to mention the all-important linking premise53 “If I am thinking, then I exist,” which is “child’s play at a point where he is setting the cornerstone of his entire philosophical edifice” (Katz, 1986, p. 14)? These considerations amount to what Katz called “the Cartesian scholar’s dilemma”—either Descartes made an unpardonable error in instantiating an obviously bad argument form, or he deplorably omitted any defense (or even acknowledgement) of the most important assumption meant to ground his theory.

Katz claimed that this is a false dilemma and he provided a third alternative, where “I am thinking, therefore I exist” is not logically valid (in the traditional sense of “valid”), though it is a “formally valid inference[] whose validity depends on language rather than logic” (Katz, 1986, p. 7). Katz thought that an explication of “analytic”54 must be based on semantics, rather than logical implication; thus, he judged that Frege (who tied analyticity to logic)55 was primarily to blame for the Cartesian scholar’s dilemma. One point against Katz here is that even if it was true that Frege sent philosophers down the wrong interpretive path, this would not explain why all Cartesian scholars prior to Frege also supposedly missed the true interpretation of Descartes’s argument. I believe that Katz would not have been deterred by this objection however, since he thought that no philosopher prior to the advent 20th century linguistics—not even Descartes—could have correctly understood the nature of the “cogito ergo sum” inference. Katz painted Descartes as someone who correctly recognized a truth, but lacked the wherewithal to explain why it was true. Since Descartes cannot be faulted for not having invented or discovered 20th century linguistics in addition to his many other achievements,

Descartes did everything that could be done in the circumstances...Descartes recognizes that the cogito ["I am thinking, therefore I exist"] enjoys a special security against invalidity...[but h]e does not identify the source of this special security as linguistic structure, since he has no positive account of the cogito...[T]he relation he is pointing to (but, of course, cannot explicate) is the same as the

53 Which, of course, would make his argument an instance of (L1).
54 For what “explicating ‘analytic’” amounts to, see the discussion starting on p. 93, below.
55 Frege’s relation to analyticity is discussed in Ch. 3, below.
relation between “whatever is having a nightmare is dreaming” and “I had a nightmare, therefore, I had a dream”…He could not see what connects the truth conditions of “I exist” to the truth conditions of “I think.” Having the advantage of contemporary formal grammar, it…[is] possible for us to see that it is the sense structure of these sentences that makes the connection. (Katz, 1986, pp. 9, 10, 10, 19, 132, 132)56

It is as if Katz thought that Descartes suffered from a kind of philosophical blindsight. In normal cases of blindsight, subjects with certain types of brain damage are presented with stimuli for a short time—so short that they are not consciously aware of having experienced the stimuli—and yet, when entreated to guess what stimuli might have been presented to them, they guess correctly a statistically significant amount of the time.57 Just as unconscious and first-person ineffable neural processes are what allow for success in blindsight cases, Katz insinuated that Descartes’s correct avowal of the truth of “I am thinking, therefore I exist” was produced by a gut-feeling that tracked the then-ineffable, true justification. According to Katz, that justification is a product of (1) “a fine-grained analysis of the senses of ‘I think’ and ‘I exist’…[which] reveals the sense of the latter to be part of the sense of the former” (1986, p. 40)—as is the case with “I had a nightmare” and “I had a dream”—and (2) “the inference counterparts of analytic statements”—as in “I had a nightmare, therefore, I had a dream”—or, what Katz called “analytic entailments” (1986, p. 4).58

Katz saw his construal of Descartes’s remarks as an inference to the best explanation: since the standard interpretations (of the Cartesian scholar’s dilemma) fail to show due reverence for a great thinker like Descartes,59 and the interpretation that Katz offers does not suffer this defect, Katz’ must be the best account. But I argue that his account, like the others, fails to respect Descartes’s actual views. Katz remarked that “Descartes recognizes that what he can say directly in a positive characterization of the cogito [‘I am thinking, therefore I exist’] is woefully limited, and he compensates for this by switching from language to epistemology” (1986, p. 132). But (1) nowhere does Descartes start talking about the truth of “I am thinking, therefore I exist” as being tied to language (and one cannot “switch from” some line of thought that one never started) and (2) nowhere does Descartes lament that he lacks the language, or the theory

56 See also Katz (1986, p. 5).
57 The locus classicus on blindsight is Weiskrantz (1986/2009).
58 See Katz (1986, p. 111) for the technical definition of “analytic entailment,” based on Katz’ theory of decompositional semantics.
59 Katz (1986, p. 22), perhaps unfairly, contrasts Descartes’s philosophical ability with that of Hegel and Heidegger, for whom he thinks one of the unappealing interpretations in the Cartesian scholar’s dilemma might be appropriate.
with which to give the correct account of his beliefs relating to the foundation of his philosophy. Instead, Descartes unhesitatingly attempted to give the justification for “cogito ergo sum”:

when we become aware that we are thinking things, this is a primary notion which is not derived by means of any syllogism. When someone says “I am thinking, therefore I am, or I exist,” he does not deduce existence from thought by means of a syllogism, but recognizes it as something self-evident by a simple intuition of the mind. (1641/1984, p. 100; AT VII, 140)

Katz quoted this passage with approval (1986, p. 16), and interpreted it as follows: Descartes was right to hold that the “therefore” in “I am thinking, therefore I exist” is recognized as “self-evident by a simple intuition of the mind” since the inference is an analytic entailment (and, hence, not a complex argument, or “syllogism”). In other words, the fact that “I exist” is analytically entailed by the “I am thinking” explains why the conclusion is known via a “simple intuition.”

What Katz failed to appreciate was that Descartes meant something specific by recognition “as something self-evident by a simple intuition of the mind,” and given this meaning, it was illicit for Katz to reinterpret the phrase in the way that he did. Descartes explained intuition by way of comparison and contrast. First,

[w]e can best learn how mental intuition is to be employed by comparing it with ordinary vision. If one tries to look at many objects at one glance, one sees none of them distinctly. Likewise, if one is inclined to attend to many things at the same time in a single act of thought, one does so with a confused mind. Yet craftsmen who engage in delicate operations, and are used to fixing their eyes on a single point, acquire through practice the ability to make perfect distinctions between things, however minute and delicate. The same is true of those who never let their thinking be distracted by many different objects at the same time, but always devote their whole attention to the simplest and easiest of matters: they become perspicacious. (c. 1628/1985, p. 33; AT X, 400-401)

Just as focusing visually on an object in normal circumstances precludes the possibility of being wrong about what it really looks like, focusing one’s understanding on “the simplest and easiest of matters” precludes the possibility of error. As a translator of Descartes’s Rules for the Direction of the Mind (c. 1628/1985) points out, Descartes must have chosen the term “intuition” with this comparison in mind—etymologically, it comes from “Lat. intueri, literally ‘to look, gaze at’; used by Descartes as a technical term for immediate mental apprehension” (p. 13). Cottingham nicely summarizes Descartes’s view on intuition as follows: “His claim is that the
mind, when freed from interference from sensory stimuli, has the innate power to ‘see,’ or directly apprehend, the truths” (1993/1994, p. 95).61

Second, the contrast that Descartes used in his elucidation of intuition, is with deduction. Recall that Descartes said the former is “more certain than”62 the latter. This is because63 most instances of deduction “depend for their certainty on memory, and…memory is weak and unstable” (c. 1628/1985, p. 38; AT X, 408). They depend on memory for two reasons: (1) arguments often build on one another and, in such cases, one needs to remember how the premises were argued to be true in the past; and (2) arguments often involve numerous premises and numerous sub-inferences, all of which must be remembered if one is to understand why a conclusion is true. Memory is weak, not just because of the mundane fact that we sometimes forget things, but because thought reliant on memory cannot withstand Descartes’s method of doubt—his procedure of withholding assent to any belief that is capable of doubt, for the sake of determining those beliefs which are indubitable. It is prima facie possible that there is an “evil demon” with the power and resolve to deceive us, and such a being would have at least two ways to manipulate our memories: compel us to forget the earlier parts of our trains of thought, and simply implant “false memories” in us. “Hence,” Descartes concluded, “we are distinguishing mental intuition from certain deduction on the grounds that we are aware of a movement or a sort of sequence in the latter but not in the former, and also because immediate self-evidence is not required for deduction, as it is for intuition” (c. 1628/1985, pp. 15; AT X, 370).

The “simplest and easiest of matters” which we can “see,” which do not rely on memory, and on the basis of which everything else is known, Descartes variously called “simple natures” (c. 1628/1985, pp. 21ff; AT X, 381ff), “primary notions” (1641/1984, pp. 97ff; AT VII, 135ff), “primitive ideas or notions” (“To Princess Elizabeth” [trans. 1991 (orig. 1643), p. 226; AT III, 691]), and “simple notions” (1644/1985, pp. 208ff; AT VIII A, 22ff). Since “natures,” “notions,” and “ideas” are just the objects of knowledge,64 it is what characterizes these objects

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61 This passage ends with “…truths which God has implanted within it.”
62 See quotation on p. 10, above.
63 Under the guise of “the natural light” (see fn. 65), Descartes also gives the following “argument” for the primacy of intuition: “Whatever is revealed to me by the natural light—for example that from the fact that I am doubting it follows that I exist, and so on—cannot in any way be open to doubt. This is because there cannot be another faculty both as trustworthy as the natural light and also capable of showing me that such things are not true” (1641/1984, p. 27; AT VII, 38-39). This appears to be an argument given the premise indicating phrase “this is because…” but as an argument, it is a petitio; someone who is not already convinced that intuition provides indubitable beliefs will not grant that the faculty of intuition is the most trustworthy.
64 See Marion (1992).
that makes them special in this context—namely their simplicity (and primacy). Accordingly, I will henceforth refer to them as “simples.” The simplest of simples are those, the knowledge of which is presupposed by the claims we make; these will be called “prerequisite simples.” For example, before we can rightfully assert that “a spherical object is moving,” we must have prior knowledge of the prerequisite simples “[s]hape, extension and motion, etc.” (Descartes, c. 1628/1985, p. 44; AT X, 418). Before we can even enter into the method of doubt, we must know “what knowledge or doubt or ignorance is” (Descartes, c. 1628/1985, p. 44; AT X, 419). Before we can even pronounce that “the proposition I am thinking, therefore I exist is the first and most certain of all to occur to anyone who philosophizes in an orderly way…one must first know what thought, existence, and certainty are” (Descartes, 1644/1985, p. 196; AT VIIIA, 8).

Prerequisite simples are so simple that they are incapable of being taught, doubted, or defined in any robust sense—they can only be intuited. For example, the very notion of truth is a prerequisite simple, and upon being sent a book entitled “De Veritate” (“On Truth”), Descartes wrote

for my part, I have never had any doubts about truth, because it seems a notion so transcendentally clear that nobody can be ignorant of it. There are many ways of examining a balance before using it, but there is no way to learn what truth is, if one does not know it by nature. What reason would we have for accepting anything which could teach us the nature of truth if we did not know that it was true, that is to say, if we did not know truth? Of course it is possible to explain the meaning of the word† to someone who does not know the language, and tell him that the word “truth,” in the strict sense, denotes the conformity of thought with its object, but that when it is attributed to things outside thought, it means only that they can be the objects of true thoughts, either ours or God’s. But no logical definition can be given which will help anyone to discover its nature. (“To Mersenne” [Descartes, trans. 1991 (orig. 1639), p. 139; AT II, 597]; † sets off a phrase that was written in Latin instead of French)

Thus, the knowledge of any of these prerequisite simples is not “propositional” knowledge capable of being expressed in language (like “I am thinking, therefore I exist”). Rather it is

65 Though “simple natures,” etc. are not explicitly mentioned in Descartes’ other published works, often when he wrote of things known “self-evidently” and “clearly and distinctly,” he was undoubtedly alluding to simples. As Markie (1992) points out, “He [Descartes] never announces that the faculties [of intuition, and clear and distinct perception] are the same, but their equivalence is strongly suggested by the fact that he designates them by similar descriptions: ‘the light of reason’ and ‘the light of nature’” (p. 147).
67 See Descartes (1644/1985, p. 197; AT VIIIA, 9) and “Letter to Clerselier” (Descartes, 1641/1984 [orig. 1646], p. 271; AT IXA, 206).
68 This is a view that Descartes often reiterated. See Descartes (c. 1628/1985, p. 49; AT X, 426-427), Descartes (1644/1985, p. 195-196; AT VIIIA, 8), and Descartes (trans. 1984, p. 417-418; AT X, 523-525).
knowledge of what some one thing is, in the sense that one can easily recognize it and distinguish it from others, and the ability to do this is had by nearly all: “[i]here is no one so dull-witted that he fails to perceive that when sitting he is to some extent different from what he is when standing” (c. 1628/1985, p. 48; AT X, 425). But if recognition and discrimination are not sufficient for propositional knowledge, what is?

We have two related abilities that allow for the possibility of knowledge expressed in language. First, we can use words to denote prerequisite simples since words “signify…by human convention” (c. 1633/1985, p. 81; AT XI, 4). Second, since one cannot know that a word (e.g., “motion”) is true, we need to be able to use the words signifying the simples to form truth-apt sentences. It is well-known that Descartes not only thought that we have the ability to generate grammatically well-formed sentences, but that this is a talent that sets us apart from “beasts”:

it is quite remarkable that there are no men so dull-witted or stupid—and this includes even madmen—that they are incapable of arranging various words together and forming an utterance from them in order to make their thoughts understood; whereas there is no other animal, however perfect and well-endowed it may be, that can do the like…This shows not merely that the beasts have less reason than men, but that they have no reason at all. For it patently requires very little reason to be able to speak. (1637/1985, p. 140; AT VI, 57, 58)

As with prerequisite simples, even the “dull-witted or stupid” can construct sentences, but having the sentences does not guarantee that we can intuit them; when we can, the sentences count as simples—“sentential simples.”

How are sentential simples possible given that they all ultimately relate multiple prerequisite simples, and thus we seemingly have to rely on memory in comparing one relatum (at time \(t_1\)) with another (at time \(t_2 \neq t_1\))? Why do sentential simples not founder in the presence of hyperbolic doubt? I do not find that Descartes addressed this worry anywhere, but perhaps he could have responded in the following ways. Further developing the analogy between intuition

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69 These abilities correspond to what Descartes thought were the “only two things to learn in any language: the meaning of the words and the grammar” (“To Mersenne” [Descartes, trans. 1991 (orig. 1629), p. 10; AT I, 76]). Descartes also allowed for the “meaning of phrases” (e.g., Descartes [1641/1984, p. 156; AT VII, 221]).

70 Descartes remarked that “even deaf-mutes invent special signs to express their thoughts” (“To the Marquess of Newcastle” [Descartes, trans. 1991 (orig. 1646), p. 303; AT IV, 575]).

71 According to Descartes, only humans are able to use words in this sense: “signs must have a reference, to exclude the speech of parrots, without excluding the speech of madmen, which has reference to particular topics even though it does not follow reason” (“To the Marquess of Newcastle” [Descartes, trans. 1991 (orig. 1646), p. 303; AT IV, 574]).

and “ordinary vision,” note that we *do* seem to be able to see multiple objects in a single act of sight. One example would be when two objects are clearly, and distinctly, in one’s visual field—e.g., when one gazes upon the moon and Venus, each of which are well lit and near each other in the night sky. Another example would be when two or more events clearly, but distinctly, take place in the *specious* present, which James characterized as “the practically cognized present…”[a] *duration-block*…[where] we seem to feel the interval of time as a whole…*[T]he specious present[ is] the short duration of which we are immediately and incessantly sensible” (1890/1952, pp. 399, 413). If James is right then, what we experience in the present is not what we experience at, say, exactly 5:38:32 PM, but what we experience within the range 5:38:32 PM – 5:38:34 PM (assuming that the specious present can be as long as two seconds). For example, upon seeing someone stub a toe, we feel that we are *now* clearly hearing “ouch” and not merely *now* hearing the vowel sound and *then* will hear the consonant sound in the future. Whether or not Descartes (would have) thought of intuition in these terms, he undoubtedly did think that sometimes single intuitions can have multiple parts.

In Descartes’s works, there are four kinds of sentential simples that we can intuit. First, there is a class of sentences that are, as it were, links which connect other simple[s]…together, and whose self-evidence is the basis for all the rational inferences we make. Examples of these are: “Things that are the same as a third thing are the same as each other”; “Things that cannot be related in the same way to a third thing are different in some respect.” These…[simples] can be known either by the pure intellect or by the intellect as it intuits the images of material things. (c. 1628/1985, p. 45; AT X, 419-420).

I will call these “linking relations.” According to Cottingham, these are the “logical rules of inference, providing the cement which binds them [other simples] together in the appropriate relations” (1993/1994, p. 157). Linking relations are *general* claims (“things that…”), but we can also intuit *specific* relations (“extension…”). These “necessary connections” are the second kind of sentential simple: “mental intuition extends to all…[simples] *and* to our knowledge of the necessary connections between them” (c. 1628/1985, p. 48, emphasis added). This is not the

73 At one point, Descartes (1644/1985, p. 230; AT VIIIA, 50) actually does use the metaphor of (not) “seeing” a necessary connection.
74 Presumably, Descartes would have held that intuition is also analogous to “ordinary auditory experiences.”
75 Cf. Descartes (1644/1985, p. 197; AT VIIIA, 9).
76 This term is surely preferable to Descartes’s “common notions,” which lumps the linking relations in with the prerequisite simples “existence, unity, duration, and the like” (Descartes, c. 1628/1985, p. 45; AT X, 419), in virtue of being applicable to both corporeal and spiritual things.
putative causally “necessary connexion” that so occupied Hume’s time. Instead, Descartes held that we can intuit conceptually necessary connections. A connection between prerequisite simples is conceptually necessary when one of them is somehow implied (albeit confusedly) in the concept of the other so that we cannot conceive either of them distinctly if we judge them to be separate from each other. It is in this way that shape is conjoined with extension, motion with duration or time, etc., because we cannot conceive of a shape which is completely lacking in extension, or a motion wholly lacking in duration. Similarly, if I say that 4 and 3 make 7, the composition is a necessary one, for we do not have a distinct conception of the number 7 unless in a confused sort of way we include 3 and 4 in it. (c. 1628/1985, p. 45-46; AT X, 421)

This striking passage—at first sounding like Kant, and then sounding like a critic of Kant—in conjunction with the fact that we can intuit necessary connections, shows that Descartes was committed to us having the ability to intuit the impossibility of conceiving one simple with another. Such necessary connections can be intuited not only between prerequisite simples, but also between certain sentential simples:

If, for example, Socrates says that he doubts everything, it necessarily follows that he understands at least that he is doubting, and hence that he knows that something can be true or false, etc.; for there is a necessary connection between these facts and the nature of doubt. (Ibid.)

Thus, we can intuit the incompatibility of certain sentences—e.g., “I am doubting” and “Nothing can be true or false”—just as we can intuit the incompatibility of certain components of sentences—e.g., “motion” and “lack of duration.”

To understand both why there are such necessary connections and how we can intuit them, Descartes’s (unorthodox) views on God must be appreciated. Theistic philosophers commonly accept that a sovereign, omnipotent God made the world in such a way so that contingent truths (e.g., “Plato was one of Aristotle’s teachers”) are true, but that God could have made the world so that those contingent truths were false (in this case, that “Plato was not one of Aristotle’s teachers” was true). Descartes not only accepted this assumption, but also insisted that God made the world so that necessary truths are true, and God could have made the world in a way that they were not true—God made twice four be eight and could have made twice four

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77 This brute intuition of the impossibility of conceiving allows Descartes to avoid the difficult questions mentioned in fn. 50 above. However, the burden of explaining the nature of intuition seems no less heavy than the burden of demonstrating validity.
not be eight! Of course it is incomprehensible to us how God could have done this, but Descartes accepts that some of God’s ways must remain mysterious to finite human minds. Because of this (and the assumption shared by most theistic philosophers and Descartes that God, out of benevolence, gave us the ability to determine what is true and false), Cottingham correctly points out that Descartes must have thought the following:

While human beings have (thanks to the God-given natural light) access to the fundamental logical and mathematical principles in accordance with which the universe is structured, the light of nature does not enable us to discern their ultimate basis. In a certain sense we simply have to accept them as emanations from the inscrutable will of God. (1993/1994, pp. 58-59)

Clearly logic and mathematics are not unique in this sense. According to Descartes, God set up all of the connections that we (correctly) intuit as necessary, but God could have created them otherwise. Just as we cannot understand how God could have made shape without extension, or motion without time, we cannot understand how God did make shape necessarily have extension, and motion necessarily have a temporal aspect. Thus, our ability to intuit the impossibility of conceiving one simple with or without another is an epistemologically basic gift from God, in the sense that we can have such knowledge, but we cannot justify it.

The third class of sentential simples are the result of deduction—“deduced simples.” These simples are the result of a special class of deductive inferences—namely, only those that do not depend on memory and, hence, do not suffer the epistemic problems of the other deductions. To illustrate his view on this matter, Descartes wrote:

If, for example, by way of separate operations, I have come to know first what the relation between the magnitudes A and B is, and then between B and C, and between C and D, and finally between D and E, that does not entail my seeing what the relation is between A and E; and I cannot grasp what the relation is just from those I already know, unless I recall all of them. So I shall run through them several times in a continuous movement of the imagination, simultaneously intuiting one relation and passing on to the next, until I have learnt to pass from the first to the last so swiftly that memory is left with practically no role to play, and I seem to intuit the whole thing at once. In this way our memory is relieved, the sluggishness of our intelligence redressed, and its capacity in some way enlarged...[In this kind of example,] a simple deduction of one fact from another

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is performed by means of intuition. (c. 1628/1985, pp. 25, 37; AT X, 387-388, 407).79

An example of what Descartes was suggesting is that even though we would not be able to guarantee that all 26 letters of the English alphabet are printed on a certain page of a book just by looking at the page as a whole, we could guarantee that all of the letters were (or were not) there if we first looked for an “a,” and upon finding it looked for a “b,” and so on. Descartes held a kind of transmission of intuition principle: when we have intuited simples involving transitive relations between A and B, and B and C, so long as we do not rely on memory, we intuit that the relation holds between A and C. Finally, “eternal truths”80 are the fourth kind of sentential simples:

when we recognize that it is impossible for anything to come from nothing, the proposition *Nothing comes from nothing* is regarded not as a really existing thing, or even as a mode of a thing, but as an eternal truth which resides within our mind…The following are examples of this class: *It is impossible for the same thing to be and not to be at the same time; What is done cannot be undone; He who thinks cannot but exist while he thinks;* and countless others. It would not be easy to draw up a list of all of them; but nonetheless we cannot fail to know them when the occasion for thinking about them arises, provided that we are not blinded by preconceived opinions. (1644/1985, p. 209; AT VIII A, 23-24)

As with the necessary connections, God created the world in such a way that these are true, and created us in such a way that we can “see” that, but not why, they are true.

An example of a sentential simple that “everyone can mentally intuit,” is the claim that “a triangle is bounded by just three lines” (c. 1628/1985, p. 14; AT X, 368). Importantly, we cannot intuit such a truth “the first time in our life that we have thought of it” (“Letter to Clerselier” [Descartes, 1641/1984 (orig. 1646), p. 271; AT IXA, 205]). We are only able to intuit that the relation “is bound by,” holds between triangles and three lines, respectively, because of our examination of *particular* triangles and lines:

when we see a figure made up of three lines, we form an idea of it which we call the idea of a triangle; and we later make use of it as a universal idea, so as to represent to our mind all the other figures made up of three lines. (Descartes, 1644/1985, p. 212; AT VIII A, 28)

79 Cf. Descartes (c. 1628/1985, p. 15; AT X, 369-370) and Descartes (c. 1628/1985, p. 38; AT X, 408-409).

80 Descartes made the distinction between analytic and synthetic methods (not to be confused with analytic and synthetic statements). Roughly, according to Descartes’s analytic method, we attempt to discover the most basic components of knowledge by examining less basic ones, and according to the synthetic method, we attempt to derive less basic components of knowledge from those assumed to be most basic. In the context of synthetical proofs, Descartes called eternal truths “axioms.”
But relations involving triangles and lines are not essential here. Descartes wrote that this is representative of

*the* way in which we should search for the truth. It is certain that if we are to discover the truth we *must always* begin with particular notions in order to arrive at general ones later on (though we may also reverse the order and deduce other particular truths once we have discovered general ones). Thus when we teach a child the elements of geometry we will not be able to get him to understand the general proposition “When equal quantities are taken from equal amounts the remaining amounts will be equal,” or “The whole is greater than its parts,” unless we show him examples in particular cases. (“Letter to Clerselier” [Descartes, 1641/1984 (orig. 1646), p. 271; AT IXA, 205-206, emphasis added)

Thus, since “[i]t is in the nature of our mind to construct general propositions on the basis of our knowledge of particular ones” (1641/1984, p. 100; AT VII, 141), Descartes was committed to the following thesis: necessary connections have epistemic priority over linking relations and deduced simples. First, since the linking relations are “general notions,” they must be “construct[ed]…on the basis of” particular necessary connections. Second, deduced simples result from deductions involving transitive relations, and those relations must either be particular (necessary connections) or general (linking relations). If the former, then the deduced simple is based on the necessary connections already intuited (and the transmission of intuition principle). If the latter, then the deduced simple is based on linking relations which, as has been shown, are based on necessary connections already intuited (and, again, the transmission of intuition principle). All of this goes to show that of the sentential simples, necessary connections and eternal truths are the bases for all propositional knowledge according to Descartes.

Now it is possible to fully appreciate why Katz was wrong to interpret Descartes as even allowing for the possibility that “I am thinking, therefore I exist” is an analytic entailment. First, recall that Katz quoted the following passage and interpreted “intuition” roughly as a “gut feeling of an analytic entailment”:

when we become aware that we are thinking things, this is a primary notion which is not derived by means of any syllogism. When someone says “I am thinking, therefore I am, or I exist,” he does not deduce existence from thought by means of a syllogism, but recognizes it as something self-evident by a simple intuition of the mind. (1641/1984, p. 100; AT VII, 140)

Katz unfortunately truncated the quotation, as the very next sentences are:

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81 Fn. by the translators of this passage: “These are two of the ‘Axioms’ which appear at the start of Euclid’s *Elements of Geometry*.”
This is clear from the fact that if he were deducing it by means of a syllogism, he would have to have had previous knowledge of the major premiss “Everything which thinks is, or exists”; yet in fact he learns it from experiencing in his own case that it is impossible that he should think without existing. It is in the nature of our mind to construct general propositions on the basis of our knowledge of particular ones. (Ibid., 140-141)  

Just as with the necessary connection we intuit between a particular triangle and three lines, Descartes held that we intuit the particular sentential simple “I am thinking, therefore I exist.”  

The truth of this sentence is something that your mind sees, feels and handles; and although your imagination insistently mixes itself up without your thoughts and lessens the clarity of this knowledge by trying to clothe it with shapes, it is nevertheless a proof of the capacity of our soul for receiving intuitive knowledge from God. (“To [Silhon]” [Descartes, trans. 1991 [orig. 1648], p. 331; AT V, 138; typo corrected].)  

As with all sentential simples, “I am thinking, therefore I exist” is (1) true solely because it was made true by God, and (2) can be known to be true solely because God gave us the ability to intuit—“see, feel, and handle”—truths. According to Descartes, we cannot ultimately know why my thought and existence are bound up together, but we can know that they are. Since nowhere in this story could semantic facts enter into why “I am thinking, therefore I exist” is true, or how we can possibly have knowledge of it, “I am thinking, therefore I exist” cannot qualify as analytic. In fact, on Descartes’s theory, none of the sentential simples, even those that have the form of one of the paradigms of analyticity in the Introduction, can be considered analytic. First, if all truths are true because God made them so, nothing could be true solely in virtue of semantic properties (meanings, definitions, etc.) because at least one feature of why truths are true is the non-semantic fact that God made them so. Second, according to Descartes’s method of doubt, all beliefs, excepting those of the nature of a single prerequisite simple, are capable of being doubted, so long as it is possible that there is an evil demon deceiving you. In other words, (nearly) any belief a person has that “seems fit to be called knowledge” (Descartes, 1641/1984, p. 101; AT VII, 141) is so-called, in part, because of the recognition that God exists and is

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82 Cf. “Conversation with Burman” (Descartes, trans. 1991 [orig. 1648], p. 333; AT V, 147).  
83 Since Descartes went on to claim that “Everything which thinks, exists” is a linking relation constructed on the basis of the particular necessary connection, he should not have included “He who thinks cannot but exist while he thinks” in the list of eternal truths (1644/1985, p. 209; AT VIII A, 23-24).  
84 See Descartes (1641/1984, p. 25; AT VII, 36), Descartes (1641/1984, p. 48-49; AT VII, 69-71), and Descartes (1641/1984, p. 100; AT VII, 140).
not a deceiver—according to Descartes, an atheist cannot know that twice four is eight.\textsuperscript{85} If this is correct, nothing can be known to be true solely in virtue of semantics, since the very possibility of all other knowledge requires non-semantic, theistic facts to be known.

There is another consideration that goes against Katz’ interpretation. In the very same sentence where Descartes talked of intuiting the relations between triangles and lines, he said,

\begin{quote}
everyone can mentally intuit that he exists, that he is thinking, that a triangle is bounded by just three lines, and a sphere by a single surface, and the like. Perceptions such as these are more numerous than most people realize, disdaining as they do to turn their minds to such simple matters. (c. 1628/1985, p. 14; AT X, 368)
\end{quote}

Here, there is no “therefore” joining “I am thinking” with “I exist,” but rather, the two are known in the exact same fashion—via intuition. Katz’ claim that we understand that “I exist” is true on the basis of the sense structure of “I am thinking” adds a level of explanation where none is needed, at least according to Descartes. Katz mistakenly thought that what was truly important to Descartes was the “therefore” of “I am thinking, therefore I exist,” but in fact, we can intuit “I am thinking” and “I exist” independently of one another.\textsuperscript{86} “Cogito ergo sum” does not even occur in the work that I suppose most philosophers would call Descartes’s masterpiece, Meditations on First Philosophy (1641/1984).\textsuperscript{87} There, he wrote the following: “So after considering everything very thoroughly, I must finally conclude that this proposition, I am, I exist, is necessarily true whenever it is put forward by me or conceived in my mind” (p. 17; AT VII, 25). Descartes gave us a single proposition, said in two ways, not as the result of a “therefore,” but as the result of being “put forward by me or conceived in my mind.” Instead of supposing, like Hintikka and others, that Descartes was here invoking performatives, it is a more natural interpretation to suppose that Descartes was just describing the occasion for an intuition. In fact, in a dialogue (not published during his lifetime), Descartes uses locutions similar to those used in the Meditations, but his character is talking about prerequisite simples:

\begin{quote}
someone who wants to examine things for himself, and to base his judgments about them on his own conceptions, must surely have enough mental capacity to have adequate knowledge of what doubt, thought and existence are, whenever he attends to the question. (trans. 1984, p. 417; AT X, 523, emphasis added).
\end{quote}

\textsuperscript{85} See Descartes (1641/1984, p. 101; AT VII, 141), Descartes (1641/1984, p. 137; AT VII, 196), and Descartes (1641/1984, p. 289; AT VII, 428).

\textsuperscript{86} Perhaps it is worth emphasizing that “he exists” actually occurs before “he is thinking” and, thus, if there is any epistemic dependency, or priority between the two, it must be ascribed to existence rather than thought.

\textsuperscript{87} As far as I can tell, Katz does not acknowledge this fact, and Erde flatly contradicts it.
Thus, instead of using the “put forward by me or conceived in my mind” phraseology, Descartes could have just as well here wrote: “I exist” can be “the conception of a clear and attentive mind, which is so easy and distinct that there can be no room for doubt about what we are understanding” (Descartes, c. 1628/1985, p. 14; AT X, 368)—i.e., can be intuited. Of course, Descartes did connect “I am thinking” to “I exist” with “therefore” in other works, but the point here is that even though we can know that “cogito ergo sum” is true, we do not need to, in order to know that “cogito” and “sum” are true.

By way of summary, my disagreement with Katz can, perhaps, come to the fore by means of the following thought experiment:

Imagine a contemporary philosopher traveling back in time to 1645 and explaining to Descartes the parts of 20th Century linguistics that Katz thought justifies the truth of “cogito ergo sum.” Would Descartes have exclaimed (in French) “That is exactly why one ought to believe ‘I am thinking, therefore I exist’ is true”?

While I suppose Katz would have had to say “yes,” I think the answer is “no.” Since Descartes is the quintessential epistemological foundationalist, the point at which justification stops is of the utmost importance for him, and that point is our ability to intuit divinely created truths. It seems to me, then, that Descartes firmly believed that his epistemology sufficed to explain our knowledge of “I am thinking, therefore I exist” as well as any explanation (within the reach of human understanding) can.

2.3. “Cogito,” “Negitas,” and Skepticism

Descartes saw himself as a vanguard, radically breaking from tradition but he did not expect any popular approval, or indeed any wide audience” (Descartes, 1641/1984, p. 8; AT VII, 9). In the schools of his time, “Scholastics” engaged in interminable disputes about recondite matters and would not deign to consider the kinds of simple truths that Descartes saw as the bases of all knowledge. Outside of the schools, most people were so inured by day to day custom, that their ability to use the human “natural light” had atrophied to the point where they could not intuit simple truths, even if they had tried. One of the main goals that Descartes had in publishing his works was to dissolve these traditions and habits. He tried to help others
acquire the habit of encompassing in his thought at one time facts which are very simple and very few in number—so much so that he never thinks he knows something unless he intuits it just as distinctly as any of the things he knows most distinctly of all. Some people of course are born with a much greater aptitude for this sort of insight than others; but our minds can become much better equipped for it through method and practice.\textsuperscript{88}\ldots My aim is always to write in such a way that I make no assertions on matters which are apt to give rise to controversy, without first setting out the reasons which led me to make them \textit{and which I think others may find convincing too.} (c. 1628/1985, pp. 34, 40; AT X, 401-402, 411-412, emphasis added)\textsuperscript{89}

Given the fact that the \textit{Objections and Replies} (in 1641/1984) is a catalogue of the ways that Descartes \textit{failed} to convince some of the greatest intellectuals of his time, he must have ultimately concluded that what he wrote is what \textit{should} convince others (regardless of whether or not they are convinced). This amendment is unfair, however, when it comes to “cogito ergo sum.” If I am right, Descartes believed that all of “I am thinking,” “I exist,” and “I am thinking, therefore I exist” are true because when he thought about them, the truth of the claims was as obvious as anything could be to the human mind. In a dialectical context where an interlocutor is not willing to grant that, say, “I exist” is known to be true by intuition—they claim to not “see” its truth—insisting that they \textit{must} see it when they consider the matter adequately,\textsuperscript{90} amounts to patronizing. You can lead philosophers to a claim, but you cannot make them intuit it. (Cf. Telling someone that the prominent cloud in the sky looks like Abraham Lincoln’s stovepipe hat and hearing the response, “no it doesn’t.”)

Descartes knew very well that “there are certain truths which some people find self-evident, while others come to understand them only by means of a formal argument” (1641/1984, p. 115; AT VII, 164). Unfortunately, since Descartes seemed to not consider “cogito ergo sum” to be one of those truths, he only gave \textit{one} set of remarks to persuade people of the claim, when he should have given \textit{two}—those meant for himself (and those sufficiently like him to have the same kinds of intuitions), and those meant for “skeptics.” One might think that pandering to skeptics is an exercise in futility, but Descartes knew that very few individuals are the doggedly gainsaying kind of “skeptics, who doubt only for the sake of doubting and

\textsuperscript{88} Cf. Descartes (1637/1985, pp. 111-112; AT VI, 1-2).
\textsuperscript{89} Cf. Descartes (1641/1984, p. 8; AT VII, 10).
\textsuperscript{90} As he does in, e.g., Descartes (trans. 1991 [orig. 1641], p. 198; AT III 436-437) and Descartes (1648/1985, p. 303; AT VIIIIB, 357).
pretend to be always undecided” (Descartes, 1637/1985, p. 125; AT VI, 29),91 or those “who neglected human affairs to the point where friends had to stop them falling off precipices [and] deserved to be laughed at” (Descartes, 1641/1984, p. 243; AT VII, 351).92 In contrast to those individuals, whom I label “dogmatic skeptics,” there are a camp of “philosophical skeptics” and

we should not suppose that sceptical philosophy is extinct. It is vigorously alive today, and almost all those who regard themselves as more intellectually gifted than others, and find nothing to satisfy them in philosophy as it is ordinarily practised, take refuge in scepticism because they cannot see any alternative with greater claims to truth. Yet it is just such people who are particularly insistent in their demands for a demonstration…No sceptic nowadays has any doubt in practice about whether he has a head, or whether two and three make five, and so on. What the sceptics say is that they merely treat such claims as true because they appear to be so, but they do not accept them as certain, because no reliable arguments require them to do so. (Descartes, 1642/1984, pp. 374-375; AT VII, 548-549)

The individuals to whom Descartes referred in this passage are the kinds of skeptics who, as a matter of fact, do not fully assent to any claims, but would fully assent to claims if they were shown to be justified by sufficiently good arguments.

The philosophical skeptic’s view might result from the very nature of argumentation. We can imagine one such skeptic saying, “Descartes, you gave me the tools to argue for my skepticism—I do not know that two and three make five, that there is an external world, etc., for the very reasons you gave early in your Meditations—I might be wrong about such things since an evil demon could be tricking me.” Descartes would have responded something along the lines of, “but you can know those things because they can be argued for based on ‘I am thinking, therefore I exist,’ which you know is true by intuition.” Finally, the skeptic would respond, “Ah, but I do not ‘see’ that ‘I am thinking, therefore I exist’ is true, and the only way I could see

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91 Samuel Johnson was particularly annoyed at the prospect of debating with such a person. As Boswell reports, “he said, ‘It is always easy to be on the negative side. If a man were now to deny that there is salt upon the table, you could not reduce him to an absurdity’” (Boswell, 1791/1799/1970 [orig. 1763], p. 303) and “Johnson having argued for some time with a pertinacious gentleman; his opponent, who had talked in a very puzzling manner, happened to say, ‘I don’t understand you, Sir:’ upon which Johnson observed, ‘Sir, I have found you an argument; but I am not obliged to find you an understanding’” (Boswell, 1791/1799/1970 [orig. 1784], p. 1308).

92 Descartes must have been alluding to Pyrrho of Elis (c. 360 – c. 270 BCE), at least in this latter passage, for whom it was said “he never shunned anything, and never guarded against anything; encountering everything, even wagons for instance, and precipices, and dogs, and everything of that sort; committing nothing whatever to his senses. So that he used to be saved, as Antigonus the Carystian tells us, by his friends who accompanied him. And Ænesidemus says that he studied philosophy on the principle of suspending his judgment on all points, without however, on any occasion acting in an imprudent manner, or doing anything without due consideration. And he lived to nearly ninety years of age” (Diogenes Laërtius IX 3; trans. 1853, p. 402).
it, is if you gave me an argument in its favor, but such an argument is impossible since arguments with ‘I am thinking’ or ‘I exist’ as the conclusion are bound to end in question begging.”

Like philosophy, argumentation is an activity. An arguer gives an argument for the sake of convincing a reasonable person (perhaps himself or herself), who is not already convinced, that some conclusion is more plausibly true in virtue of its relation to plausibly true premises. An argument is a case of question begging when, from the perspective of the person to be convinced, one or more of the premises are plausibly true only if the conclusion is plausibly true independently of the argument. If an argument is put forth to convince someone that “I (the person evaluating the argument) exist,” or “I (the evaluator) am thinking,” then the skeptic invokes semantics in the following way: “since ‘to be convinced’ plausibly means, in part, ‘a case where someone (who exists) comes to have thoughts of a certain kind’ (say, thoughts of assent or ‘conviction’), a condition for the possibility of the argument being convincing (i.e., a tacit premise of the argument) is that I am the kind of thing that can be convinced by arguments—but the kinds of things that can be convinced by arguments are things that exist and think, and that I am such a thing is exactly what needs to be demonstrated.”

Descartes knew of exactly this worry. He wrote that if someone tries to justify the seemingly analogous claim “I am breathing, therefore I exist”:

> if he wants to prove he exists from the fact that there cannot be breathing without existence, he proves nothing, because he would have to prove first that it is true that he is breathing, which is impossible unless he has also proved that he exists. (“To Reneri for Pollot” [trans. 1991 (orig. 1638), p. 98; AT II, 37-38])

Of course Descartes’s response was to insist that “I am thinking, therefore I exist” is special in the sense that we can intuit (“see”) that “I am thinking” is true, while we cannot intuit that “I am breathing” is true. But, again, this response does not engage the philosophical skeptic.

As I see it, the first appropriate dialectical maneuver on behalf of Descartes here, is to argue that the skeptic’s argument (to the effect that arguments with “I am thinking” or “I exist” as the conclusion beg the question) likewise has the following tacit premise: I (the evaluator of the argument) am the kind of thing that can be convinced by arguments—i.e., a thinking,

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93 There is a long tradition of philosophers accusing Descartes of begging the question when it comes to “cogito ergo sum,” but this is inappropriate, since he did not assent to the claim based on an argument.
94 See Wittgenstein (1921/2005, prop. 4.112) and fn. 142, below.
95 Since discussions of a fictional character being “convinced” would be tangential to the present discussion, I provisionally accept that all “someones” are existing individuals.
96 “Conviction” is in quotation marks here since “convince” and “conviction” might only be interdefinable, and hence the latter would not make any clearer the meaning of the former.
existing thing. If the philosophical skeptic is convinced by his or her own argument, then the skeptic must concede that the “skeptic” does in fact admit first-person thought and existence. If the philosophical skeptic does not argue for skepticism, but instead *denies* (though not dogmatically) that any arguments have been successful in showing the truth of any claim, then I believe the best way to get to the heart of the dispute is by exploiting publically available performatives. Even if Descartes was right that first-person reasoning (from incorrigible introspection of clear and distinct ideas) is epistemically superior to third-person reasoning (from ostensibly publically available phenomena), third-person reasoning is all that we have available in a debate with someone who does not already agree with us about first-person matters. Instead of getting your interlocutors to deny something in a cognitive sense of “deny,” getting them to *say* “I deny…” brings publically available information—at the very least, sounds—into the debate. Of course, the skeptic will gladly *say* “I deny that I know I think,” “I deny that there is a cloud prominently in the sky,” “I deny that two and three make five,” but I suppose the skeptic should be more reluctant to *say* “I deny that I deny anything.” This last claim is peculiar in the sense that the (vocalized) denial is a *publically available* performative—it is an instance of doing something by using language—that makes reference to the action performed. This certainly seems to be a case where one has a dialectical advantage over the skeptic, and hopefully he or she will be more amenable to admitting first-person thought and existence. If not, skeptics might go on to take one of three routes:

1. Hypocritically claim that they do not need to admit first-person thought and existence by their skeptical argument, but insist that Descartes must admit such things in a question begging manner.

2. Happily deny that they deny anything—i.e., show themselves to be a dogmatic skeptic.

3. Like Cratylus, refrain from using language (so that they cannot have problems with performatives) and be a silent skeptic.

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97 Performatives were discussed above on p. 10. Even though performatives do not provide a correct interpretation of why Descartes believed that “cogito ergo sum” is true, performatives are nonetheless important in this context.

98 See, e.g., Descartes (1641/1984, p. 11; AT VII, 15-16).

99 According to Aristotle (*Metaphysics* IV 5, 1010\(^b\)6-1010\(^b\)13), “…they held these views because they saw that all this world of nature is in movement, and that about that which changes no true statement can be made; at least, regarding that which everywhere in every respect is changing nothing could truly be affirmed. It was this belief that blossomed into the most extreme of the views above mentioned, that of the professed Heracliteans, such as was held by Cratylus, who finally did not think it right to say anything but only moved his finger” (trans. 1984/1991a, p. 1594).
In any of these cases, there is no possibility of continued fruitful debate. Given that Kenny (1968) is not exaggerating when he writes, “the three words ‘cogito ergo sum,’… must have called forth a million times their number in commentary” (p. 40), I will move on to other issues.

2.4. Díaz’ Interpretation

Díaz (1988) provided the latest attempt to bring Descartes into the analyticity debate. Unlike Erde and Katz, Díaz does not make any claims about “cogito ergo sum”; instead he attempts to show two things: that “[t]he analytic-synthetic distinction was first identified by Descartes; moreover, the distinction might be a key point in what is regarded as the ‘ontological argument’” (Díaz, 1988, p. 47). Like Erde and Katz, Díaz fails to demonstrate his theses, but in the case of his second claim, he was not incorrect, he simply did not give sufficient evidence.

In a strict sense, Díaz’ first claim would be practically impossible to demonstrate since, even assuming that he could show that Descartes did in fact identify the distinction, he would also have to show that no other philosopher prior to Descartes had done so. Exactly what, then, could Díaz mean by “identifying” and deserving “credit for pioneering the analytic-synthetic distinction” (Díaz, 1988, p. 49)? These cannot be based on influence, since no other philosophers developed, or even used, analyticity as a result of encountering it in Descartes’s work; it is just as inappropriate to suggest that Descartes “pioneered” the distinction any more than Aristotle pioneered the philosophy surrounding “cogito ergo sum.”

What Díaz seems to have been

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100 An exceedingly minor qualm to be waged against Díaz is due to his title “Cartesian Analyticity,” since it is needlessly ambiguous. Traditionally, “Cartesian” has been taken to mean not only “of or pertaining to Descartes,” but also “of or pertaining to the ‘followers’ of Descartes,” or even “of or pertaining to philosophers whose theories are close to those of Descartes.” As such, Malebranche is traditionally considered to be a Cartesian, but Díaz has nothing to say about Cartesians who are not Descartes. The title of the present chapter, “Descartes and Analyticity,” would have suited Díaz’ paper as well.

101 Buried in Aristotle’s *Nicomachean Ethics* (IX 10, 1170’32) is the claim “if we perceive, we perceive that we perceive, and if we think, that we think; and if to perceive that we perceive or think is to perceive that we exist (for existence was defined as perceiving or thinking)” (trans. 1984/1991b, p. 1849). Since this remark is not elaborated upon, or even repeated elsewhere in Aristotle’s extant works, there is not good reason to believe that Aristotle saw it as being special in any way. In Augustine, on the other hand, there are similar claims in numerous places. When Augustine’s priority was pointed out to Descartes, he responded, “I am obliged to you for drawing my attention to the passage of St Augustine relevant to my *I am thinking, therefore I exist*. I went today to the library… and I do indeed find that he does use it to prove the certainty of our existence…In itself it is such a simple and natural thing to infer that one exists from the fact that one is doubting that it could have occurred to any writer. But I am very glad to find myself in agreement with St Augustine, if only to hush the little minds who have tried to find fault with the principle” (“To Colvius” [Descartes, trans. 1991 (orig. 1640), p. 159; AT III, 247, 247, 248]).
attempting to show was that it is “mistaken” to credit Leibniz “for introducing this distinction into philosophical parlance” (1988, p. 47), instead of Descartes. By “introducing…into philosophical parlance,” Díaz does not mean being the first to use “analytic” and “synthetic” (or their cognates) as terms with their present meaning, for neither Descartes nor Leibniz did that. Instead, he claims that Descartes “provides a rudimentary criterion to differentiate analytic from synthetic statements” (1988, p. 49), and cites Leibniz as showing that “the Law of Contradiction, [is] a key criterion for verifying the truth of analytic statements” (1988, p. 53). So, what is the “criterion” that Descartes was the first to provide? Díaz does not directly say, but merely provides a lengthy (over 200-word) quotation and claims, without any exegesis, that the quote “provides” the criterion. Here is an abbreviation of the passage reproduced by Díaz:

Let us now proceed to the sentence, “Body possesses extension.” Here we understand the term “extension” to denote something other than “body”; yet we do not form two distinct ideas in our imagination, one of extension, the other of body, but just the single idea of extended body. So far as the fact of the matter is concerned I might just as well have said “Body is extended,” or better still “That which is extended is extended.” This is a peculiarity of those entities which exist only in something else, and which can never be conceived apart from a subject… 

First, it is worth noting that the wording of Descartes’s Paul/wealth example has the ring of Frege’s famous morning star/evening star example (but, of course, Frege’s discussion is far more penetrating than Descartes’s on this point). Second, the Paul/wealth example is being used to shed light on the more important body/extension sentence. In the Paul/wealth case, we are supposed to assume that Paul is wealthy, but obviously that “Paul” neither means “wealthy, etc.” nor means something that entails “Paul is wealthy.” Contrast this with what “body” (in general) means: “The substance which is the immediate subject of local extension and of

Regardless of any antecedents, Descartes is the first philosopher who convinced others that “I am thinking, therefore I exist” is one of the most significant claims in all of philosophy.

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102 See fn. 26 for discussions of Leibniz’ priority, in this context.
103 For the purposes of consistency throughout my discussion, I here quote from the now standard English translation, rather than the one that Díaz used.
104 Frege’s example is discussed on p. 90 below, and Frege’s work generally is discussed in Ch. 3.
105 Of course, “this word ‘body’ is very ambiguous. When we speak of a body in general, we mean a determinate part of matter, a part of the quantity of which the universe is composed…But when we speak of the body of a man…
the accidents which presuppose extension, such as shape, position, local motion and so on, is called \textit{body}” (1641/1984, p. 114; AT VII, 163).\footnote{Cf. Descartes (1641/1984, p. 124; AT VII, 176) and the pre-theoretical account of “body” given in the second Meditation (Descartes, 1641/1984, p. 17; AT VII, 26).} Since all bodies are “subjects” with accidents such that we intuit a necessary connection between them and extension,\footnote{See p. 22 above.} we know that it is impossible to conceive of a body that is not extended. Thus, we can intuit (so long as we do not rely on memory) that the very meaning of “body” entails a necessary connection between bodies and extension.\footnote{This necessary connection is only for bodies however, since “[b]y ‘extension’ we mean whatever has length, breadth and depth, leaving aside the question whether it is a real body or merely a space” (c. 1628/1985, p. 59; AT X, 442; emphasis added).}

What Díaz fails to see is that even though we can thereby know that “body possesses extension” is true in virtue of the meanings of its components, we cannot know it \textit{solely} based on those meanings, as epistemological analyticity requires. According to Descartes, we only know it because we also intuit the necessary connections that God made between bodies and extension, and know that God is not a deceiver. Since given the very same meaning of “body” that we grant, God could have made non-extended bodies (even though we do not know how this is possible), the meaning of “body” cannot guarantee the truth of “body possesses extension.”

There is an important point related to analyticity to glean from Descartes’s remarks on “body,” however. According to Descartes, “body possesses extension” is a claim that is indubitable solely in virtue of (1) God’s truth-making ability and benevolence, (2) our knowledge that God is not a deceiver, and (3) semantic properties. In cases like this, then, semantic properties are the (non-theistic) salient ones when it comes to knowing the truth of claims worthy of the highest credence. In short, it is interesting to realize that Descartes was committed to analytic-like claims, as credible as those of, say, simple arithmetic.

Díaz’ second thesis is that Descartes’s ontological argument was “a use of analyticity” (Díaz, 1988, p. 49). Here is how he sees Descartes’s argument:

\begin{quote}
The situation is similar to that of “body” and “extension.” Once the concept “god” is understood as a supremely perfect being (existence being regarded as perfection) and body as that which occupies space, it is as redundant to say “god exists” as it is to say “bodies are extended,” since “existence” and “extension” were already known through the mere apprehension of the concepts “god” and “body,” respectively. Descartes repeatedly insisted that existence is not
\end{quote}
necessarily contained in concepts or in the objects of concepts; god’s essence is
the only exception—existence is necessarily contained in god’s essence. (Díaz,
1988, p. 53, footnote omitted)

As I have already argued, if Descartes’s ontological argument involves analyticity, then it has to be dissimilar from the case of “body” and “extension.” In particular, though we know of the necessary connection between body and extension via intuiting the connection between the two, if “God exists” is analytically true, we cannot know of a necessary connection between God and existence in this way. I believe Díaz is misled by Descartes’s use of the phrases “contained in” and “necessary existence.” According to Díaz, Descartes should have said existence is contained in the concept “God,” but it might not be contained in the concept “body.” This is what Descartes said however: “Existence is contained in the idea or concept of every single thing, since we cannot conceive of anything except as existing” (1641/1984, p. 117; AT VII, 166).

Of course, not every concept is actually instantiated—e.g., the concept of a remote control that fast forwards actual time. How then can existence be contained in a concept that does not actually exist? Descartes wrote,

I think the most important consideration at this point is that I find within me countless ideas of things which even though they may not exist anywhere outside me still cannot be called nothing; for although in a sense they can be thought of at will, they are not my invention but have their own true and immutable natures. When, for example, I imagine a triangle, even if perhaps no such figure exists, or has ever existed, anywhere outside my thought, there is still a determinate nature, or essence, or form of the triangle which is immutable and eternal, and not invented by me or dependent on my mind. (1641/1984, pp. 44-45; AT VII, 64)

Descartes made a distinction between ideas of things existing only “inside my thought” and those that exist both “inside” and “outside my thought.”

In contrast to the simples that we have been discussing throughout (e.g., “extension,” “triangle,” “I am thinking, therefore I exist,” etc.), Descartes says that the other sorts of ideas we have are “composite,” “some [of] which the intellect experiences as composite before it decides to determine anything about them: but there are others which are put together by the intellect itself” (c. 1628/1985, p. 32; AT X, 399). There are, then, two general classes of composites, which I will call “experiential” and “intellectual.” The first class consists of

those natures which we call “composite” [and] are known by us...because we learn from experience what sort they are....Our experience consists of whatever we perceive by means of the senses, whatever we learn from others, and in general whatever reaches our intellect either from external sources or from its
own reflexive self-contemplation. We should note here that the intellect can never be deceived by any experience, provided that when the object is presented to it, it intuits it in a fashion exactly corresponding to the way in which it possesses the object, either within itself or in the imagination. (c. 1628/1985, p. 46-47; AT X, 422)

Specifying further based on this passage, there are three kinds of experiential composites: sense composites, testimony composites, and reflective composites. Since other people can misinform us, Descartes must have held that testimony composites have the form “Other people have informed me that X and Y are actually related,” and this could then be confirmed or refuted based on further sense and reflective composites. Not only can we not be deceived about these experiential composites,

there can be no falsity save in composite natures which are put together by the intellect. In view of this, we divide natures of the latter sort into two further classes, viz. those that are deduced from natures which are the most simple and self-evident…and those that presuppose others which experience shows us to be composite in reality. We shall reserve the whole of the third book for an account of the latter. (c. 1628/1985, p. 32; AT X, 399)

Unfortunately, since the third book was either never started, or has been lost, we have less information about the intellectual composites than would be ideal. Nevertheless, this passage suggests how Descartes likely thought that we can have ideas of what exists only in thought. As Descartes explicitly used the terms, “falsity” and “truth” are ambiguous, since they apply both to sentences and to ideas.¹⁰⁹ For an idea to be “false” simply means that it does not correspond to some existing thing and, thus, a false idea is one that does not exist “outside my thought.” According to Descartes, then, only intellectual composites are capable of being false ideas.

Just as there are three kinds of experiential composites, there are three kinds of intellectual composites. From the passage just quoted, Descartes indicated the following two kinds of intellectual composites: those deduced from simples and those deduced from experiential composites (when their presupposition is made explicit). But since simples and experiential composites have “no falsity,” legitimate deductions and presuppositions based on them should also not generate any false ideas. Since Descartes says that intellectual composites can be false, there must be a third kind of intellectual composite not mentioned here, which I will call “false composites.” There are two ways that the intellect can come to have a false

composite—either “by our free will, or by a disposition of the corporeal imagination” (c. 1628/1985, p. 47; AT X, 424). According to Descartes, the first is “rarely” a source of false ideas, while the second “almost always” is (Ibid.). Very few of us are able to choose to believe that there are actually green unicorns, but we can imagine someone whose mind is so constituted that he or she is unconsciously disposed to compound the prerequisite simples “green,” “horse,” and “horn” into an intellectual composite. This person would then falsely believe that green unicorns exist “outside my thought.”

Of the false composites, there are those that possibly exist and those that cannot possibly exist. Of the former, recall that Descartes gave the example of imagining “a triangle, even if perhaps no such figure exists, or has ever existed, anywhere outside my thought.” In contrast, he said, “the idea of a triangle [is] superior to the ideas of chimeras, which cannot possibly be supposed to have existence” (1641/1984, p. 263; AT VII, 383). Chimerical ideas are those that combine simples into complexes that clearly do not actually exist:

Even though we can with the utmost clarity imagine the head of a lion joined to the body of a goat, or some such thing, it does not therefore follow that they exist, since we do not clearly perceive the link, so to speak, which joins the parts together. For example, I may clearly see Peter standing, but I do not clearly see that standing is contained in and conjoined with Peter. Now if we are accustomed to clear perceptions, we will never have a false conception. As to whether our perceptions are clear or not, this is something we know perfectly well from our own inner awareness. (“Conversation with Burman” [Descartes, trans. 1991 (orig. 1648), p. 343-344; AT V, 160])

Though there is no conceptual link between Peter and “standing,” just as there is no link between a lion’s head and a goat’s body, the former case can be an experiential composite, where we “clearly see Peter standing.” In the latter case, since there cannot be an experiential composite of a chimera (as they do not in fact exist), the only way we could conclude that they possibly exist is on the basis of a conceptual link, which is also absent. “According to the laws of true logic,” Descartes wrote, “we must never ask about the existence of anything until we first understand its essence” (1641/1984, p. 78; AT VII, 107-108). In the case of a chimera, there is no single essence to understand; there are, instead, two essences arbitrarily conjoined. Because of this arbitrary “link,” chimerical composites are always indistinct—i.e., not “sharply separated” (1644/1985, p. 208; AT VIII A, 22) from all other ideas—and thus false ideas. But the other class

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110 Though, see Descartes (1649/1985, p. 336; AT XI, 344).
111 Cf. Descartes (1637/1985, p. 131; AT VI, 40).
of false ideas occurs when we do “clearly and distinctly understand” an essence—i.e., have knowledge of a prerequisite simple—and in such cases “possible existence is contained in the concept or idea of everything” (1641/1984, p. 83; AT VII, 116). This is why Descartes held that “[e]xistence is contained in the idea or concept of every single thing,” since chimeras are not things, and all other ideas contain possible existence.

Finally, Descartes was absolutely convinced that there was a single, nonchimerical composite that has existential import stronger than possibility. To quote from the *Principles of Philosophy*, Sections 14 and 15 read, in full:

14. *The existence of God is validly inferred from the fact that necessary existence is included in our concept of God.*

The mind next considers the various ideas which it has within itself, and finds that there is one idea—the idea of a supremely intelligent, supremely powerful and supremely perfect being—which stands out from all the others. In this one idea the mind recognizes existence—not merely the possible and contingent existence which belongs to the ideas of all the other things which it distinctly perceives, but utterly necessary and eternal existence. Now on the basis of its perception that, for example, it is necessarily contained in the idea of a triangle that its three angles should equal two right angles, the mind is quite convinced that a triangle does have three angles equalling two right angles. In the same way, simply on the basis of its perception that necessary and eternal existence is contained in the idea of a supremely perfect being, the mind must clearly conclude that the supreme being does exist.

15. *Our concepts of other things do not similarly contain necessary existence, but merely contingent existence.*

The mind will be even more inclined to accept this if it considers that it cannot find within itself an idea of any other thing such that necessary existence is seen to be contained in the idea in this way. And from this it understands that the idea of a supremely perfect being is not an idea which was invented by the mind, or which represents some chimera, but that it represents a true and immutable nature which cannot but exist, since necessary existence is contained within it. (1644/1985, pp. 197-198; AT VIII A, 10)

Here is Descartes’s mature ontological argument, which I will abbreviate as “MOA.” In an earlier version of Descartes’s ontological argument—“EOA”—he claimed that “existence” (without a modal qualifier) is contained in the idea or concept of “God.” In response to the EOA,

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112 French text of 1647 omitted.

113 See Descartes (1637/1985, p. 129; AT VI, 36) and Descartes (1641/1984, pp. 45-46; AT VII, 65-69). Nolan mistakenly claims that “When speaking of this divine attribute, he [Descartes] sometimes uses the term ‘existence’ *simpliciter* as shorthand. But in his more careful pronouncements he always insists on the phrase

39
Caterus, citing Aquinas and anticipating generations of philosophers of religion, attempted to show that such an argument is invalid. The problem is that based on the EOA, we can only conclude that if God (or anything else) exists, then then God (or whatever else) has the properties conceptually contained in the idea (and then the fact that existence is such a property for God is a moot point). Caterus “propose[s] to have a little fun” (in Descartes, 1641/1984, p. 72; AT VII, 99) by coming up with the following kind of example: let “A” name the concept of an “existing lion.” Since “existence” is contained in the concept of “A,” by parity of form with Descartes’s EOA, we should be able to conclude that A-type lions had to exist. But, Caterus cites God’s omniscience as showing that this is false:

Nevertheless the distinct knowledge of God, the distinct knowledge he has from eternity, does not compel either element in the composite to exist, unless we assume that the composite itself exists (in which case it will contain all its essential perfections including actual existence). (in Descartes, 1641/1984, p. 72; AT VII, 100)

In other words, even if concepts contain “existence,” they do not thereby guarantee that the concept is instantiated in the actual world. Descartes developed the MOA in response to this criticism and never went back to the EOA. 115 He responded to Caterus by saying,

115 Nolan (2001/2011) correctly notes that though Descartes appears to offer an ontological argument involving “perfections” that is completely separate from EOA and MOA, the seemingly distinct ontological argument serves as a “heuristic device[,] not merely to appease a scholastically trained audience but to help induce clear and distinct perceptions…A meditator who is having trouble perceiving that necessary existence is contained in the idea of a supreme perfect being can attain this perception indirectly by first recognizing that this idea includes every perfection.”

‘necessary and eternal existence,’ which resonates with tradition” (2001/2011). Immediately below, I argue that Descartes changed his argument from involving “existence” to involving “necessary existence.” The reason that Nolan is overly charitable in taking Descartes to have assumed “necessary existence” all along, is that Descartes never actually used that phrase until responding to Caterus, and then he always used “necessary existence.”
God, it certainly does follow that God exists. (Descartes, 1641/1984, p. 83; AT VII, 116-117)

Descartes thought that, given sufficient attention, any philosopher can arrive at the prerequisite simple of “God,” and on that basis know that necessary existence is contained in the concept. According to Nolan, Descartes used “necessary existence” in the way that “[m]edieval, scholastic philosophers often spoke of God as the sole ‘necessary being,’ by which they meant a being who depends only on himself for his existence (a se esse). This is the notion of ‘aseity’ or self-existence” (2001/2011). This is why Díaz is incorrect to say, “Descartes repeatedly insisted that existence is not necessarily contained in concepts or in the objects of concepts; god’s essence is the only exception—existence is necessarily contained in god’s essence.” The modal operator “necessary” was not meant by Descartes to apply to containment, but rather be a component of what is contained, and thereby indicate self-dependence.

To address Caterus’ example of the “existing lion,” Decartes argued that such a concept is “put together by the intellect…[and s]uch ideas can always be split up by the same intellect” (Descartes, 1641/1984, p. 83; AT VII, 117). In other words, the concept is not a distinct one, but an intellectual composite, which happens to be instantiated. In contrast, no amount of meditation could allow us to separate necessary existence from the other properties of God, just as no amount of meditation could allow us to “split up” the concept of a mountain and the concept of a valley. While those two concepts each contain possible existence, and thus we cannot reason a priori to their existence, the concept of God contains necessary existence, and thus we can reason a priori to God’s existence. Ultimately, Descartes maintained that we know of a prerequisite simple of “God,” and that knowledge assures us of God’s existence.

One might think that since the MOA only relies on ideas or concepts, it seems that analyticity cannot play a role in the MOA. However, an epistomological sense of analyticity does not exclude the possibility of knowing the truth of some claim via non-semantic means. It simply requires that the truth of the claim can be known solely in virtue of semantics. It is in this sense that I believe Descartes’s ontological argument can be shown to be analytic, on Descartes’s terms. First, note that even though semantics is not emphasized by Descartes, he appreciated its importance. In the Meditations, Descartes wrote:

…At present I am not admitting anything except what is necessarily true. I am, then, in the strict sense only a thing that thinks; that is, I am a mind, or intelligence, or intellect, or reason—words whose meaning I have been ignorant
of until now. But for all that I am a thing which is real and which truly exists.
(1641/1984, p. 18; AT VII, 27, emphasis added)116

Descartes was subsequently frustrated by Bourdin’s misinterpretation of this passage and
remarked,

In applying the term “mind” or “intellect” or “reason” to this thinking thing, I did
not intend to endow the term “mind” with any more weighty significance than the
phrase “thinking thing”; I did not suppose I was making some further discovery at
which I could exclaim with the words “eureka, eureka,” as my critic here jeeringly
and impertinently suggests. On the contrary, I expressly went on to say that up till
now I had been ignorant of the meaning of the words “mind,” “intellect,” etc. This
puts it beyond doubt that by these words I understood exactly and only what is
conveyed by the term “thinking thing”…[If he [Bourdin] pretends that I meant
anything more by the term “mind” than I did by the term “thinking thing,” then a
firm denial on my part is in order. (1642/1984, pp. 332, 333; AT VII, 491, 492)

Bourdin completely missed that Descartes was trying to remedy some semantical problems of his
peers and predecessors, as much as he was trying to remedy their epistemological problems.
In response to a different critic of the Meditations, Descartes said,

I shall say only that it is generally the ignorant who have given things their names,
and so the names do not always fit the things with sufficient accuracy. Our job,
however, is not to change the names after they have been adopted into ordinary
usage; we may merely emend their meanings when we notice that they are
misunderstood by others. (1641/1984, p. 246; AT VII, 355-356)

Furthermore, even “great minds” are apt to misuse philosophically loaded words, such as
“place.”117 Finally, at the very end of The Search for Truth, Descartes wrote, “By a ‘thinking
thing’ I mean…” (trans. 1984, p. 420; AT X, 527), and unfortunately, the text abruptly ends here.
Would that we had the finished sentence.

According to Descartes, the function of meaning is to linguistically capture the ideas that
we have intuited, and if “the ignorant” have set up language in such a way that intuitions are
obscured or omitted, we ought to stipulate their errors away. It is imperative to do this since,
“whenever I express something in words, and understand what I am saying, this very fact makes
it certain that there is within me an idea of what is signified by the words in question”
(1641/1984, p. 113; AT VII, 160). Thus, so long as we understand the word “God,” Descartes
was committed to us having the idea of God, in which we can “see” necessary existence. Since

116 Fn. in original text omitted. Though one would have liked the translators to emphasize “mind,” etc. since clearly
Descartes was referring to words, there is no worry that anyone would be confused here by a use-mention fallacy.
117 See Descartes (c. 1628/1985, pp. 53-54; AT X, 433-434).
the having of the prerequisite simple and intuiting its components are not susceptible to hyperbolic doubt, the semantic fact alone ensures that we can know that God exists. Are we able to, in fact, understand the meaning of the word “God”? Descartes certainly thought so:

By the word “God” I understand a substance that is infinite, independent, supremely intelligent, supremely powerful, and which created both myself and everything else (if anything else there be) that exists. All these attributes are such that, the more carefully I concentrate on them, the less possible it seems that they could have originated from me alone. So from what has been said it must be concluded that God necessarily exists. (1641/1984, p. 31; AT VII, 45)

Though Descartes responded to Anselm’s ontological argument by saying “because a word conveys something, that thing is not therefore shown to be true” (Descartes, 1641/1984, p. 83; AT VII, 115), Descartes seems to have held as a tenet that “because a word conveys something, there is an idea corresponding to that thing.” Thus, the interesting point about Descartes saying (or, perhaps, stipulating) what “God” means, is that the details of the meaning are not as important as its bare existence. So long as we can understand what “God” means, it is “certain” that we have the idea of God, and can know that God exists without any further argument. This, I suppose, is why Descartes claimed that it is possible to know that God exists without argumentation:

I ask my readers to spend a great deal of time and effort on contemplating the nature of the supremely perfect being. Above all they should reflect on the fact that the ideas of all other natures contain possible existence, whereas the idea of God contains not only possible but wholly necessary existence. This alone, without a formal argument, will make them realize that God exists; and this will eventually be just as self-evident to them as the fact that the number two is even or that three is odd, and so on. For there are certain truths which some people find self-evident, while others come to understand them only by means of a formal argument. (1641/1984, p. 115; AT VII, 163-164)

The MOA is for the skeptics, but, on Descartes’s view, analyticity suffices for expert intuiters. It is to Díaz’ credit that he saw in this and other passages a hint of analyticity, but I have argued that Díaz neglected the nuances associated with Descartes’s notions of containment and existence (necessary and possible), and did not see the crucial claim that when we understand linguistic meaning, we are certain of having an “idea of what is signified by the words in question.” According to Descartes, “God,” meaning what it does, allows us to have the

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118 See fn. 67 above.
120 Caterus misidentified it as Aquinas’ argument, and Descartes followed suit.
knowledge that God exists and, thus, allows there to be an analytic truth, in an epistemological sense.
CHAPTER THREE

FREGE’S CONCEPTION OF ANALYTICITY

Though Descartes was interested in mathematics and made significant contributions to the field, he was clearly happy to engage with philosophy on its own terms. Frege, on the other hand, always had mathematics as his primary focus. His numerous philosophical innovations were prompted by the desire to give, once and for all, proofs of all mathematical claims, ranging from the simple additions taught to schoolchildren to the mathematics of infinity. His objective was not, however, to figure out how to convince schoolchildren of their sums or Cantorians of their cardinalities. In his proofs, he wanted

not merely to place the truth of a proposition beyond all doubt, but also to afford us insight into the dependence of truths upon one another. After we have convinced ourselves that a boulder is immovable, by trying unsuccessfully to move it, there remains the further question, what is it that supports it so securely? The further we pursue these enquiries, the fewer become the primitive truths to which we reduce everything; and this simplification is in itself a goal worth pursuing. (Frege, 1884/1980, p. 2)

In his attempt to achieve this insight into mathematics, Frege found that all logicians, from Aristotle to Boole, had not provided the necessary means for sufficiently rigorous proof. In an extraordinary feat, Frege reinvented the language of formal logic, saving what was valuable from the works of those other logicians, without suffering their limitations. In his attempt to achieve the simplification of mathematics, Frege also found that modern philosophers, from Hobbes and Leibniz to Kant and Mill, had misunderstood the very objects of mathematics—numbers. The very “point” of his great philosophical work The Foundations of Arithmetic, was to either define “number” “or recognize it as indefinable” (1884/1980, p. 5). Had he succeeded, Frege would have ultimately shown that (1) “number” is definable in purely logical terms, and (2) all mathematical truths can be proven solely based on logic and the definition of number, which itself is solely based on logic. Thus, Frege attempted to demonstrate the truth of logicism—the thesis that mathematics is “reducible to,” or is in fact a branch of logic. Though most philosophers think that Frege failed in this project, they all agree that Frege provided thought

121 In discussions of Frege, “mathematics” should not be taken to include geometry. Regarding the mathematics with which Frege was primarily concerned, he disagreed with Kant, but “[i]n calling the truths of geometry synthetic and a priori, he [Kant] revealed their true nature” (Frege, 1884/1980, pp. 101-102).
provoking arguments and, put forth views on language that are still philosophically relevant. Here, I will focus on one such view—that analytic truths, mathematical or not, are those capable of being proven solely based on logic and definitions.

### 3.1. Kant’s Theory of Knowledge and Frege’s Interpretation

Whenever English-speaking philosophers hear the words “Kant” and “analytic,” they will, out of habit, think of the words “subject,” “predicate,” and “containment,” because there is a single characterization of analyticity, associated with Kant, and nearly always alluded to, in this context—a judgment is analytic if it has a subject-predicate form, and “the predicate \( B \) belongs to the subject \( A \) as something that is (covertly) contained in this concept \( A \)” (Kant, 1781/1787/2008, p. 141; A6/B10).\(^{122}\) Though emphasizing that Kant held the subject-predicate containment notion undoubtedly has pedagogical value when introducing individuals to analyticity, taken by itself, it is liable to obscure Kant’s actual, nuanced view. In what must have been an attempt to better explain the distinction between analytic and synthetic judgments, Kant took a passage (nearly verbatim) from his *Prolegomena* (1783/1997), and inserted it into the second edition of the *Critique of Pure Reason*\(^ {123}\) immediately after the section of the book where he first discussed subject-predicate judgments. The first sentence of this inserted passage reads “Mathematical judgments are all synthetic” (1787/2008, p. 143; B14), and the example that Kant put forth as a synthetic judgment is of “\( 7 + 5 = 12 \).” While I suppose that most philosophers (and grammarians) would not consider this equation to be in “subject-predicate” form, Kant interpreted it as, in fact, having the subject “the sum of 7 and 5,” and the predicate “is identical to 12.” The first point to note, then, is that Kant was able to restrict analytic judgments to those involving subject-predicate expressions, since he interpreted “subject-predicate propositions” liberally.

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\(^{122}\) Bennett points out that Kant needlessly ignores analytic falsity. According to Kant’s containment account of analyticity, “self-contradictory judgments are not analytic…[I]n its normal meaning, the sentence ‘All squares are circular’ is taken to ‘add to the concept of the subject a predicate which has not been in any wise thought in it, and which no analysis could possibly extract from it,’ which is Kant’s formula for a synthetic judgment. This is just an oversight…He thus needs a third class of judgments, namely those which are false by virtue of the concepts they contain” (Bennett, 1966, p. 6).

\(^{123}\) The title of this work will subsequently be abbreviated as “the *Critique*,” and this practice should not cause any confusion, as I do not have occasion to here refer to Kant’s *Critique of Practical Reason* or *Critique of Judgment*. 

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Second, Kant’s justification for why the judgment of “7 + 5 = 12” is synthetic—a justification that would eventually be rejected by Frege—is as follows:

the sum of 7 and 5 contains nothing more than the unification of both numbers in a single one, through which it is not at all thought what this single number is which comprehends the two of them. The concept of twelve is by no means already thought merely by my thinking of that unification of seven and five, and no matter how long I analyze my concept of such a possible sum, I will still not find twelve in it. (1787/2008, p. 144; B15)\(^{124}\)

According to Kant, while we need experience so that our “cognitive faculty [can] be awakened” (1787/2008, p. 136; B1), an already enlivened mind has “given” concepts that can be “analyzed” \(a \text{ priori}\)—i.e., independently of any (non-merely concept enabling) experience. The notion of analyticity emerges from the “analyses of the concepts that we already have of objects” (Kant, 1781/1787/2008, p. 140; A5/B9). These analyses result in “two sorts of cognition”: those that “are nothing more than illuminations or clarifications of that which is already thought in our concepts (though still in a confused way)” and those where “reason adds something entirely alien to given concepts” (Kant, 1781/1787/2008, p. 141; A5-6/B9-10). In the Prolegomena, Kant reiterated this distinction between judgments “according to their content, by dint of which they are either merely explicative and add nothing to the content of the cognition, or ampliative and augment the given cognition; the first may be called analytic judgments, the second synthetic” (1783/1997, p. 16; 4:266).\(^{125}\)

Though Kant sometimes claimed that “a = a” is analytic (e.g., 1787/2008, p. 145; B17), he eventually made clear that since nothing is “covertly contained” in a redundant identity, and thus there is nothing to explicate, it is misleading to call an identity of this sort “analytic”:

If we wanted to call [analytic] judgments identical, we should merely cause confusion; for judgments of that sort [i.e., “identical judgments”] contribute nothing to the clarity of the concept which all judging must yet aim at, and are therefore called empty; e.g., any body is a bodily (or in other words a material) entity. Analytic judgments are indeed \(founded\) upon identity, and can be resolved

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\(^{124}\) A brief objection is in order: if Kant were right that “mathematical judgments are all synthetic,” then there is no reason to prefer “7 + 5 = 12” to “1 + 1 = 2,” as an example of a synthetic judgment. But the latter case seems far less clear as one where a mere union is thought rather than the amount united.

\(^{125}\) Anderson claims that “Kant himself thought his three criteria—containment, the principle of contradiction (or identity), and the ampliative or explicative character of judgment—were equivalent...There are strong reasons, however, to rely on the containment definition. It has a \(\text{prima facie}\) claim to be basic; it is announced first...” (2010, p. 85). In fact, the passages just cited show that Kant talks about the ampliative-explicative distinction before discussing containment in both the Critique and the Prolegomena. While Anderson is thus incorrect in concluding that containment has priority based on the order in which it was introduced, he makes an additional case that explicative judgments “tend to collapse back onto the containment idea” (2010, pp. 85-86).
into it, but they are not identical, for they need to be dissected and thereby serve to elucidate the concept; whereas by identical judgments, on the other hand, *idem per idem* [“the same by the same”], nothing whatever would be elucidated. (1793/1804/2002, p. 404; 20:322)\(^\text{126}\)

Thus, even though recognizing a judgment as analytic does not “amplify” our knowledge, in the sense of going beyond the concept itself, “[i]t is an essential element of Kant’s doctrine of analysis that our understanding of the analyzed concept changes (for the better) during the process, whereas the concept does not” (Coffa, 1991, p. 11).

Third, Kant claimed that while we can recognize an analytic judgment by undertaking an analysis and finding that a predicate is already “thought in” the concept of the subject, there are two principles on which knowledge of the truths of analytic judgments are “founded.”\(^\text{127}\) One is “identity,” as was just stated, and the other is the principle of contradiction:

*If the judgment is analytic,* whether it be negative or affirmative, its truth must always be able to be cognized sufficiently in accordance with the principle of contradiction...Hence we must also allow the principle of contradiction to count as the universal and completely sufficient principle of all analytic cognition. (1781/1787/2008, p. 280; A151/B190-191)

Many people\(^\text{128}\) have thought that this principle is applied by denying a judgment and seeing if a contradiction results. However, Kant seemed to hold that “the principle of contradiction” is not merely the claim “*everything of which the opposite is false, is true.*”\(^\text{129}\) Instead, according to Kant, “the proposition that no predicate pertains to a thing that contradicts it is called the principle of contradiction” (1781/1787/2008, p. 279; A151/B190). Strictly speaking, this simply amounts to the claim that for each of our concepts, none contain incompatible predicates. How then are we able to cognize analytic truth in virtue of the principle of contradiction? We apply it in conjunction with identity,\(^\text{130}\) as follows: undertake an analysis of a subject, think of the subject “through identity” (1781/1787/2008, p. 141; A7/B11)—i.e., “resolve” the subject via analysis into its conceptual components, never adding any concepts foreign to the subject—and then append to this way of thinking the subject, a denial of the concept to be predicated. The principle of contradiction implies that if *this* conjunction is contradictory, then it must be false that the


\(^{127}\) As Manser (1968) correctly points out, the principle of contradiction (and identity) only apply when we already know what is contained in a subject concept.

\(^{128}\) See, e.g., the discussion of White on p. 89, below.

\(^{129}\) See Kant (1755/1992, pp. 6-10; 1:388-391).

\(^{130}\) In the passage where Kant called the principle of contradiction the “completely sufficient principle of all analytic cognition,” he must have been assuming that identity is part and parcel of the principle.
predicate can be denied of the pre-analysis subject concept. Here is how Kant put it in the
Prolegomena:

For since the predicate of an affirmative analytic judgment is already thought
beforehand in the concept of the subject, it cannot be denied of that subject
without contradiction; exactly so is its opposite necessarily denied of the subject
in an analytic, but negative, judgment, and indeed also according to the principle
of contradiction. So it stands with the propositions: Every body is extended, and
No body is unextended. (1783/1997, p. 17; 4:267)

Kant follows Descartes in assuming that his readers will grant “extension, although not explicitly
said of the former concept [i.e., “body”] prior to the judgment, nevertheless was actually thought
of it” (1783/1997, p. 16; 4:266), and Kant could have added, “extension can be explicitly said of
body based on the identity of the clarified concept with the concept as given, prior to analysis.”

It may seem strange that Kant put forth such effort in characterizing analyticity, since he
hardly wrote of it beyond such characterizations. The reason for this is that such a
characterization was essential in the explanation of the complementary concept, syntheticity,
which is part of what Kant saw as the most important question in all of metaphysics: “how are
synthetic judgments a priori possible?” Kant’s answer, in brief, develops as follows. Kant agreed
with Hume’s arguments to the effect that particular experiences cannot ground necessary truths,
but this does nothing to show that necessary truths cannot be supplied a priori by pure reason.131

Kant’s revolutionary idea was that our cognitive faculties (in particular, reason and
understanding) are, in a sense “active,” rather than merely “passive”: “Up to now it has been
assumed that all our cognition must conform to the objects…[But, in fact,] the objects must
conform to our cognition” (1787/2008, p. 110; Bxvi). If cognition spontaneously transforms
what the world gives us, according to certain rules, then the objects of cognition would
necessarily, but non-analytically, have certain features in accordance with those rules. Kant
claimed that the noumenal world (of “things-in-themselves”) affects us, providing the raw
material for our cognitive faculties to “synthesize” into our phenomenal experiences (the world
of appearances), and nearly all of our knowledge is of the latter, rather than of the former. Kant
argued that the world in-itself is neither spatial nor temporal—space and time are ways that we
need to perceive the world, not ways that the world needs to be. Further synthetic a priori
knowledge of phenomenal experience is based on certain pure concepts, or “categories,” of our

131 Kant lamented that Hume “brought no light to this kind of knowledge…[and merely] deposited his ship on the
understanding. Without these concepts to unite our experiential data (intuitions), our consciousness of the world would be completely disparate and unconnected. We can have synthetic *a priori* knowledge of some necessary features of the phenomenal world, in spite of Hume’s arguments, because we can know what experience presupposes—space and time (the laws of which are geometry and arithmetic), and the categories (the most noteworthy being “substance” and “cause”). This outline, here drawn with the broadest of pencils, traces some of the most important elements of Kant’s epistemology.

Since Kant’s theory of knowledge must have been known by every philosopher in Germany during the 19th Century, and Frege’s *The Foundations of Arithmetic* was meant as much for an audience of philosophers as it was for mathematicians, Frege was impelled to discuss the distinction between “analytic” and “synthetic” truths, and in so doing, did “not, of course, mean to assign a new sense to these terms, but only to state accurately what earlier writers, Kant in particular, have meant by them” (1884/1980, p. 3). This seemingly innocuous claim has provoked the ire of some commentators, since analyticity as Frege characterized it—as the ability to be given a proof based “only on general logical laws and on definitions” (1884/1980, p. 4)—looks nothing like the subject-predicate conception nearly always associated with Kant. But recall that Kant’s interpretation of subject-predicate propositions was so liberal as to include arithmetical identities. Restricting analyticity to having such a form, then, was seemingly superfluous. More importantly, Kant always emphasized that analyticity allows us to make explicit what was, prior to logical analysis, only implicit in our concepts. Clearly in Frege’s characterization, analyticity allows for logical proofs, the bases of which are definitional. The patent difference between the two, then, is whether analyticity involves concepts or definitions. I shall now show why Frege thought that his substitution of definitions for concepts was justified and was, thus, an “accurate” (i.e., charitably interpreted) statement of Kant’s intentions.

Since Kant thought that the business of the philosopher was conceptual analysis, one might think that Frege and Kant could have agreed that Frege’s notion of analytic is the same as Kant’s notion in cases *when we have completed the analysis* and, thereby, produced a definition making explicit all conceptual containments. In fact, Kant could not have agreed to this, for the

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132 For example, Katz (1986, esp. Ch. V).
following reason: according to him, we can never complete an analysis of a given concept. Conceptual analysis is always incomplete

[s]ince one cannot become certain through any test whether one has exhausted all the marks of a given concept through a complete analysis, all analytic definitions\textsuperscript{134} are to be held to be uncertain. (1800/2002/2004, p. 633; 142)

This is clearest in the case of an \textit{a posteriori} given concept, since subsequent experience might show that the concept was inadequately understood in the past. Presumably Kant held that in the case of \textit{a priori} given concepts, “no matter how long I analyze my concept” today, there is always the possibility that I will be more perspicacious tomorrow. Nevertheless, Kant held that the better the conceptual analysis is, the better “approximations to the definition” (1800/2002/2004, p. 633; 142) that we are able to generate. There is a strict kind of definition that we can achieve, but it is not the result of analysis—these declarations\textsuperscript{135} are “of arbitrary concepts, which are not only always possible but also necessary, and which must precede all that is said by means of an arbitrary concept,” and one most readily finds them among the “mathematicians” (1800/2002/2004, p. 632-633; 142).\textsuperscript{136} Frege’s innovation of analyticity was based on arguments to the effect that “declarations” are (1) the fruitful kinds of definitions and (2) can be \textit{based on} the “approximate definitions.” Thus, along with logical laws, Frege concluded that declarations, or as I shall call them “stipulations,” serve as the most appropriate basis for analyticity.

\subsection*{3.2. Definitions and Ordinary Language}

Kant, as paraphrased by Hartman, offered the following advice on how to get the best approximation of a definition based on conceptual analysis: first of all, “seek true propositions, that is, propositions that are true of the things to be defined” (Hartman, 1953, p. 60).\textsuperscript{137} While Frege attempted to follow this advice, upon examining true number ascriptions like “the author of this dissertation is six feet tall” and “2 + 2 = 4,” he saw that they are liable to lull competent speakers, including experts, into a false confidence about the level of rigor that mathematicians

\textsuperscript{134} Further complicating his terminology, Kant labels “definitions of a concept that is \textit{given}” as “analytic definitions” (1800/2002/2004, p. 631; 141), in addition to “declarations.”
\textsuperscript{135} Also called “synthetic definitions.” Cf. fn. 134.
\textsuperscript{136} See Hartman (1953) and Beck (1956) for further discussions of Kant’s theory of definitions.
\textsuperscript{137} Kant merely says “seek (1.) true propositions” (1800/2002/2004, p. 635; 145).
currently enjoy, and a false view of the epistemology of pure mathematics.\footnote{Occasionally he goes so far as to say things bordering on allegations of conspiracy—e.g., “…language seems to have indulged [in certain constructions] in order to mislead logicians” (Frege, 1897/1984, p. 239).} As a result, Frege proposed that when philosophers analyze mathematical claims, they ought to provide key words with perspicuous definitions, where such definitions are constrained by two normative requirements—one positive, and one negative. The first is a demand for “fruitfulness,” which Frege described metaphorically: defining ought to be “a matter of drawing boundary lines that were not previously given at all” (Frege, 1884/1980, p. 100). This is a clear departure from the view of Kant, who wrote, “to define properly means just to exhibit originally the exhaustive concept of a thing within its boundaries” (Kant, 1781/1787/2008, p. 637; A72/B755). The language here is often used in discussions of vagueness, where a concept is commonly said to have “borderline cases” that neither clearly “fall under” nor “outside” the concept. Kant seems to have simply assumed that none of our concepts are vague. Frege, however, noted that

\begin{quote}
\text{[t]he only barrier to enumerability is to be found in the imperfection of concepts. Bald people for example cannot be enumerated as long as the concept of baldness is not defined so precisely that for any individual there can be no doubt whether he falls under it. (“Letter to Marty” [Frege, trans. 1980 (orig. 1882), p. 100])}
\end{quote}

Though being able to separate all individuals into groups of bald and not-bald individuals is an exercise not worthy of our time, Frege’s point was that if we seek determinate answers when it comes to important questions, like the foundations of mathematics, we ought to remove vagueness in the concepts under investigation. I will reformulate the fruitfulness requirement non-metaphorically as,

\begin{quote}
FR: Definitions ought to both preserve the original determinate extension that the newly defined words have and add new elements to the determinate extension (the extension\footnote{Not to be confused with “extension” in the way that Descartes and Kant used the term.} of “X” being the set of things which qualify as, instantiate, satisfy, or of which “X” can be truly predicated).
\end{quote}

Frege justified \textit{FR} pragmatically, in two ways. First, “[d]efinitions show their worth by proving fruitful. Those that could just as well be omitted and leave no link missing in the chain of our proofs should be rejected as completely worthless” (Frege, 1884/1980, p. 81). Frege, empathetically feeling other logicians’ pain from undue derivations, thought unnecessary inferences to be a waste of time. If “tempurafox” is defined as “an undoc fox” and “undoc” is defined as, “something with an unusually docile temperament,” then if we are using the terms in a context where “undoc” only applies to foxes, the first definition can be done away with in favor
of the following definition: “tempurafox” is defined as “a fox with an unusually docile temperament.” Insisting on inferences involving “undoc” in such derivations would be on par with demanding that any proof involving multiplication must be rewritten in terms of addition. Second,

[w]hat we shall be able to infer from it [the more fruitful type of definition], 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. (Frege, 1884/1980, pp. 100-101)

What Kant sought from the synthetic a priori, Frege sought from definitions—the ability to increase our knowledge purely on the basis of logical reasoning. Kant seemingly would have protested that any “definition” that departs from our concepts is arbitrary. According to Frege, however, fruitful definitions are neither arbitrary in the sense of not being based on anything, nor in the sense that there is no justification for the definition—they are based on our ordinary concepts, and extend our knowledge.

Frege’s second, negative requirement on definitions states that they must not be “creative in the sense of being able to endow a thing with properties it has not already got” (Frege, 1891/1952, pp. 22-23). In other words,

NC: Definitions ought not be made so that claims already involving the terms have a change in truth-value, based on the definition.

Removing vagueness at the price of adding ambiguity seems like a zero-sum venture at best. Frege seemingly thought that since we have to live with natural languages, imperfect as they are, changing well-established terminology is liable to cause confusion and conflation. Moreover, as Robinson noted,

[t]he habit of stipulating one’s own meaning for words tends to bring with it the habit of evading the analysis of obscure conceptions and the clarification of actual meanings. Here lies the reason for the opposition between those thinkers who freely stipulate new meanings and those who hold firmly to customary meanings. (1950/1954, p. 78)

With FR and NC, Frege was clearly trying to find a compromise between these two kinds of thinkers.
Some scholars have argued Frege’s views on definitions were either inconsistent or, at the very least, that Frege changed his views over time. For example, Grossmann’s appraisal was that

the source of tension in Frege’s conception of definitions [is as follows]. At times he thinks of them as mere abbreviations for longer expressions, so that it is a matter of linguistic convention that the definiens and the definiendum have the same meaning. At other times he thinks of definitions as statements which are true or false, but not as a matter of convention…Frege cannot have his cake and eat it too. Either the definiens and the definiendum have the same meaning (always as a matter of linguistic convention, explicitly stated or implicitly understood), or they do not. In the first case, we can say that we have given meaning to an expression. But in this case, nothing new can ever be proved. In the second case, the “definition” may enable us to prove something new. But it will no longer be a matter of convention whether to accept the “definition.” (1969, pp. 122, 123, emphasis added; Cf. pp. 127-128)

Grossmann’s talk of “true or false” definitions is more a product of his time than Frege’s, since Frege does not describe definitions as such, but there was a lively debate over the issue of whether definitions can be true or false, when Grossmann was writing this passage. Grossmann seems to have thought that according to Frege, any “definition” that violated NC was “false,” but that Frege was committed to definitions being abbreviations, for which NC was an irrelevant principle. Grossmann concluded that Frege ended up seeing the “tension,” and remedied it in Frege (c. 1914/1979): “[h]e finally realizes that neither informative identity statements nor statements of analysis ought to be called definitions. These two kinds of statements are not as harmless as proposals for abbreviations” (Grossmann, 1969, p. 253). Similarly, Schirn (1989) argues that “[i]n his mature period, Frege abandoned” FR (p. 61).

I shall argue that contrary to the conclusions of these commentators, FR and NC appear consistent, and Frege never gave either of them up. Frege must be credited with some of the blame for the commentators’ misunderstanding, however. In various essays, lecture notes and, most importantly, his two formal tracts, Begriffsschrift (1879/1997) and Grundgesetze (1893/1997; 1903/1997), Frege clearly states that definitions are mere abbreviations and that nothing can be proven in a system with a definition that could not be proven without it—that is, he implies that definitions cannot be “fruitful” in any sense other than “convenient.” It is thus

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140 Frege does use the term “zutreffen” in describing his definition of “number,” which was translated by Austin as “correct” (1884/1980), and by Jacquette as “applies” (1884/2007).
141 See Edwards (1966) for a discussion.
understandable why commentators have tended to look at his remarks on definitions in between his two major logical works as an aberration. However, the commentators have failed to notice that this disparity arises due to Frege discussing definitions in two different contexts—namely, (1) already given a logical language with an explicit set of (undefined) terms and rules of inference and (2) given vague ordinary usage of a concept that, when made precise, would be useful to have (say, for the purpose of constructing arithmetic) in a yet to be given logical language. While (1) is clearly the context of the Begriffsschrift and Grundgesetze, in works like the Grundlagen (1884/1980), Frege moves between (1) and (2), often without warning. However, if we assume that when he speaks of definitions as mere abbreviations, the context is always (1), we can safely investigate context (2). Such an assumption is made here.

### 3.3. Frege Contra(sted with) Wittgenstein

Regardless of FR and NC’s status, why did Frege think that ordinary language is incapable of achieving some of the philosophically important results that come from a less vague language? This question became all the more pressing half a century after Frege finished his work, since at that time, many of the most reputable philosophers maintained that there is no need to amend or even append ordinary language—it is, they said, just fine as it is. While this attitude has since waned, it is by no means gone; recently when I was talking with a philosopher about the nature of definitions, I was playfully rebuffed with: “There are no definitions. Haven’t you read Wittgenstein?” I have. Since the later Wittgenstein’s position on definitions was so contrary to that of Frege’s, it is instructive to make clear exactly where the two philosophers disagreed. Before getting to their differences, however, it is worth noting that the early Wittgenstein was of Frege’s mind on this point: “Without philosophy thoughts are, as it were, cloudy and indistinct: its task is to make them clear and to give them sharp boundaries” (1921/2005, prop. 4.112).\(^{142}\) The following passage shows that while the middle Wittgenstein

\(^{142}\) Note: Many of Wittgenstein’s works—most notably Tractatus Logico-Philosophicus and Philosophical Investigations—are compilations of many relatively small passages, individually numbered as propositions or sections. Since these numbered sections are as easily locatable as page numbers, and those numbers reflect Wittgenstein’s (or his editors’) own decisions on how to parse the works, in citations from these sources, I omit page numbers in favor of proposition or section numbers.
was leaning away from philosophy improving on language in the direction of commonsense language being “fine” as it is, he had not gone the whole way:

We have the feeling that the ordinary man, if he talks of “good,” of “number” etc., does not really understand what he is talking about. I see something queer about perception and he talks about it as if it were not queer at all. Should we say he knows what he is talking about or not? You can say both...A philosopher has temptations which an ordinary person does not have. You could say he knows better what a word means than others do. But in fact philosophers generally know less. Because ordinary persons have no temptations to misunderstand language. (1936/1993, p. 367)

In this passage, Wittgenstein does not insinuate that philosophers who analyze the terms “good,” etc. never know more about what they “talk of,” but generally that their temptations lead them into problems that the “ordinary man” does not encounter.

Wittgenstein seems to have only fully maintained the preeminence of ordinary language in his late period, for it was during this time that he clearly repudiated the claim that to “know what I am talking about” I rarely need to be able to give definitions. Indeed, he famously claimed that many words are incapable of simple definitions since such words are used in sundry ways that do not all have a single thing in common—they share “family resemblances,” not necessary and sufficient conditions. This results from the fact that the process of learning a language is normally free from definitional, or other philosophical commitments—“Children do not learn that books exist, that armchairs exist, etc., etc.,—they learn to fetch books, sit in armchairs, etc. etc.” (c. 1949/1969/1998, §476). What is really important for the sake of language, is for potential communicators to avoid misunderstandings and, indeed,

[t]o this end we shall constantly be giving prominence to distinctions which our ordinary forms of language easily make us overlook. This may make it look as if we saw it as our task to reform language. Such a reform for particular practical purposes, an improvement in our terminology designed to prevent misunderstandings in practice, is perfectly possible. But these are not the cases we have to do with. The confusions which occupy us arise when language is like an engine idling, not when it is doing work...Here I should like to say: a wheel that can be turned though nothing else moves with it, is not part of the mechanism... (It would be as if without knowing how to play chess, I were to try and make out

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what the word “mate” meant by close observation of the last move of some game of chess.) (Wittgenstein, c. 1945/1953/1958, §§132, 271, 316)\textsuperscript{146}

While Wittgenstein does allow for the possibility of improving language for some “particular practical purposes,” these are not the purposes of the philosopher; the exigencies of life can be discussed perfectly well with our ordinary, commonsense terminology. The upshot is that,

Philosophy may in no way interfere with the actual use of language; it can in the end only describe it...Th[e] role [of words in ordinary language] is what we need to understand in order to resolve philosophical paradoxes. And hence definitions usually fail to resolve them. (Wittgenstein, c. 1945/1953/1958, §§124, 182)\textsuperscript{147}

That is, traditional philosophical problems arise when philosophers apply words in contexts other than the normal ones where they serve their conventional function. Defining almost always\textsuperscript{148} adds problems since words are rarely defined in ordinary contexts and, thus, defining gives words roles for which they were never suited.\textsuperscript{149}

Presumably, Frege would have responded to these kinds of remarks as follows. First, while he would have agreed that people can know what they are talking about in a colloquial sense of “know” without giving definitions—i.e., have “knowledge” sufficient for the purposes of ordinary discourse—clearly Frege thought that it is possible to know certain things in a more robust sense. Just as our knowledge that delectable foods have a taste is less dubitable than the knowledge that the earth revolves around the sun, Frege thought that it would be an important finding, if knowledge of arithmetic was on par with the former, rather than the latter. To someone like Frege who suspected that pure mathematics is analytic,\textsuperscript{150} and hence can be known \textit{a priori}, it would be intellectual dishonesty to rest contented without \textit{actually} knowing it \textit{a priori}.

Next, Frege did acknowledge the possibility, indeed the inevitability, that certain words are indefinable. “One cannot require that everything shall be defined,” he said, “any more than one can require that a chemist shall decompose every substance. What is simple cannot be

\textsuperscript{146} Cf. Wittgenstein (c. 1945/1953/1958, §105).
\textsuperscript{147} See Wittgenstein (c. 1945/1953/1958, §116).
\textsuperscript{148} Though Wittgenstein said that “definitions usually fail...”, this leaves open the possibility of definitions \textit{occasionally} helping to resolve philosophical problems.
\textsuperscript{150} Interestingly, it seems that after struggling with Russell’s paradox for two decades, Frege may have concluded that arithmetic could not be given logical foundations. See Frege (c. 1924-25/1979a) and Frege (c. 1924-25/1979b, pp. 276-281).
decomposed, and what is logically simple cannot have a proper definition” (Frege, 1892/1952, pp. 42-43). For instance,

it would be futile to employ a definition in order to make it clearer what is to be understood by “true.” If, for example, we wished to say “an idea is true if it agrees with reality” nothing would have been achieved, since in order to apply this definition we should have to decide whether some idea or other did agree with reality. Thus we should have to presuppose the very thing that is being defined… Truth is obviously something so primitive and simple that it is not possible to reduce it to anything still simpler. (c. 1897/1979, pp. 128, 129)\(^{151}\)

Frege even allows for the *prima facie* possibility of number being indefinable.\(^{152}\) But this sense of indefinability is in stark contrast to the one that Wittgenstein emphasized. Indefinability for Frege is due to simplicity, and according to Wittgenstein, it is due to complexity:

[A]lways ask yourself: How did we *learn* the meaning of this word (“good” for instance)? From what sort of examples? in what language-games? Then it will be easier for you to see that the word must have a family of meanings. (Wittgenstein, c. 1945/1953/1958, §77)

I suppose Frege would have granted that the various ways people learn language are rarely congenial with words *having* clear-cut definitions, but this just points out the etiology of what Frege took to be a *limitation* of ordinary language—it would be better, for certain purposes, if learning did not happen like this. As Frege remarks, “When human beings created language, they were at the stage of childish pictorial thinking. Languages are not made so as to match logic’s ruler” (Letter to Husserl’ [Frege, trans. 1980 (orig. 1906), p. 68]). It may appear strange that Frege talked of language being “created,” when NC seems to prohibit exactly that, but surely NC is a principle that assumes an already semi-functional language, since that is the world in which we all find ourselves. “Language is a human creation” in the sense that

man had, it would appear, the capacity to shape it in conformity with the logical disposition alive in him. Certainly the logical disposition of man *was* at work in the formation of language but equally alongside this many other dispositions—such as the poetic disposition. And so language is not constructed from a logical blueprint. (Frege, c. 1924-25/1979c, p. 269)\(^{153}\)

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\(^{151}\) Recall that Descartes said nearly the exact same thing. (See quotation on p. 19 above.)

\(^{152}\) See Frege (1884/1980, pp. 5, 26-27).

\(^{153}\) Cf. Lichtenberg: “Language originated prior to philosophy, and that is what handicaps philosophy” (Lichtenberg, c. 1799/1908, p. 78).
Going beyond Frege to evolutionary theory, one can similarly note that what is sufficient for increasing the odds of avoiding predators, gathering food, and having adaptive features in the “struggle for existence” (Darwin, 1859/1866, p. 66) might not be up to the task of understanding the complicated structure of the world.

It is interesting to note that what lead Frege to his theory seems to be the same as what lead Wittgenstein to his—“I must above all strive to be understood,” Frege wrote (1893/1997, p. 210). Ordinary discourse does cause problems that could be remedied by definitions, as we can frequently cite times when misunderstandings occur in ordinary interpersonal interactions. Consider an online purchase of a book that I once made. The seller listed the item as “used” but in “very good condition.” When I received the book, neither I nor the person for whom the book was a gift considered the condition to be even “good”—there was extensive underlining, highlighting, dog-eared pages, and even some water damage. Upon contacting the seller, I received an apology (in the colloquial sense) and a placatory partial refund, but not an admission that the condition was not “very good.” Assuming that the seller listed the item in earnest, clearly we did not share the same definition for “good,” when it comes to book quality—proverbially, caveat emptor. The same goes for ideas being sold in the intellectual marketplace. If the assumed definition of “existence” allows for it to be a predicable property of objects, someone might easily be persuaded by a standard ontological argument; however, Frege, following Kant, pointed out that “existence” functions as a quantifier, invalidating the argument155—caveat philosophus!

In the logical domain, Wittgenstein’s insistence on sticking to the way that people actually speak is perhaps the most pernicious, for speech tracks thought:

> If we seek the task of logic to be that of describing how men actually think…then the name logic is being used for what is really only a branch of psychology. This is as if one imagined that one was doing astronomy when one was developing a psychophysical theory of how one sees through a telescope. In the former case the

154 Cf. fn. 145, above.
155 See Frege (1884/1980, pp. 64-65). That Frege sees the fault with the ontological argument as definitional is not clear from the passage in the Grundlagen, but in two passages from On The Foundations of Geometry, he says: “Whoever has seen quite clearly the error contained in this proof [the Ontological argument] will also be aware of the fundamental mistake in Mr. Hilbert’s definitions. It is that of confounding what I call first- and second-level concepts” (1903/1984, p. 280) and “If in the definition of a concept of the first level it is permitted to mention existence as a characteristic, then this may also be done in the definition of the concept God, which is of the first level: in which case the existence of God would immediately follow[—which may be taken as a reductio]” (1906/1984, p. 314). Cf. the discussion of Descartes’s ontological argument, starting on p. 35 above.
things that are the proper concern of logic do not come into view any more than in
the latter case do the problems of astronomy…[I]t follows that every
psychological treatment of logic can only do harm. It is rather the task of this
science to purify logic of all that is alien and hence of all that is psychological,
and to free thinking from the fetters of language by pointing up the logical
imperfections of language. (c. 1897/1979, pp. 143, 148-149)\textsuperscript{156}

Perhaps this criticism does not apply to Wittgenstein’s views, however. According to Hacker
(2007), scholars like Baker may have unwittingly imported some of Waismann’s Wittgenstein-
like, psychotherapeutic views into their interpretation of Wittgenstein; Hacker argues that, in
fact, Wittgenstein’s remarks sounding of psychologism should be interpreted as analogies rather
than straightforward declarations.\textsuperscript{157} Regardless of whether or not Wittgenstein held a full-
bodied psychologistic view, Wittgenstein did suggest that straying from ordinary usage is akin to
a disease that demands psychological treatment;\textsuperscript{158} Frege’s position was that obstinately sticking
to ordinary usage is akin to willingly avoiding the truth, and this demands \textit{logical} treatment.

\section*{3.4. Stipulation and Scientific Purposes}

Why did Frege think that we should sometimes “play” an ideal, constructed language-
game rather than an ordinary, already existent one? His answer comes \textit{via} analogy:

I believe I can make the relationship of my \textit{Begriffsschrift} [i.e., Frege’s ideal
language] to ordinary language clearest if I compare it to that of the microscope to
the eye. The latter, due to the range of its applicability, due to the flexibility with
which it is able to adapt to the most diverse circumstances, has a great superiority
over the microscope. Considered as an optical instrument, it admittedly reveals
many imperfections, which usually remain unnoticed only because of its intimate
connection with mental life. But as soon as scientific purposes place great
demands on sharpness of resolution, the eye turns out to be inadequate. The
microscope, on the other hand, is perfectly suited for just such purposes, but
precisely because of this it is useless for others. Likewise, this \textit{Begriffsschrift} is an
aid devised for particular scientific purposes. (1879/1997, p. 49)

So, what, according to Frege are “scientific purposes”? They are the attempts to “prove whatever
is susceptible of proof and…[to] not rest until we come up against something unprovable. It…[is

\textsuperscript{156} Cf. Wittgenstein (1921/2005, props. 4.1121ff).
\textsuperscript{157} I am indebted to Russ Dancy for bringing this reference to my attention.
the] endeavour to make the circle of unprovable primitive truths as small as possible” (c. 1914/1979, p. 204). As a matter of fact, Frege almost always had the specific “science” of logic (or mathematics under the guise of logic) in mind. How, then, did he propose that we “lay down our linguistic usage in logic according to our logical needs”? (“Letter to Husserl” [trans. 1980 (orig. 1906), p. 71]) Ultimately, logic only has one need, end, or goal—“the most general laws of truth” (c. 1897/1979, p. 128). Generality here is to be understood in the sense of universal applicability to “all that is numerable. This is the widest domain of all; for to it belongs not only the actual, not only the intuitable, but everything thinkable” (1884/1980, p. 21). As Frege made clear, when he spoke of laws, what he was really concerned with was descriptive rather than normative laws, but he also thought that they are normative (for reasoning) since what they describe is true.

While truth is indefinable, some of its aspects must be granted. First, like the unchangeableness of the past, the truth is definite, fixed; it is “independent of being recognized as true by anyone…[like] boundary stones set in an eternal foundation, which our thought can overflow but not dislodge” (Frege, 1893/1997, p. 203). Whether a sentence is true or false (or meaningless) is an all-or-nothing affair. Second, truth is about what is actual, not fictional.

Because of this requirement, Frege’s famous sense-reference (Sinn-Bedeutung) distinction comes into play:

[I]n fiction words only have a sense [Sinn], but in science and wherever we are concerned about truth, we are not prepared to rest content with the sense [Sinne], we also attach a [reference] [Bedeutung] to proper names and concept-words; and if through some oversight, say, we fail to do this, then we are making a mistake.

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159 Frege continued, “The reader may find that he can form no very precise conception from this description. The author’s inadequacy and the awkwardness of language are probably to blame for this. But it is only a question of giving a rough indication of the goal of logic. What is still lacking in the account will have to be made good as we go on.”

160 The universal quantifier is, of course, intended to capture this generality.


162 See p. 58 above.

163 Of course Frege allows for “mythological or literary thought, [but this is] not a thought that could further scientific knowledge” (“Letter to Jourdain” [Frege, trans. 1980 (orig. c. 1914), p. 80]).

164 I believe that the most appropriate English translations of these terms, when used by Frege, is “sense” and “reference,” respectively, but given the facts that Frege admitted that “[i]t is true that I had not then [in the past] settled upon my present use of the words ‘Sinn’ and ‘Bedeutung,’ so that sometimes I said ‘Sinn’ where I should now say ‘Bedeutung’” (Frege, c. 1892-95/1979, pp. 123), and that there have been numerous other translations over the past century, I follow Beaney’s suggestion to always indicate the original German along with any translations. (See Beaney [1997, esp. pp. 36-46].)
that can easily vitiate our thinking...In my Grundlagen\textsuperscript{165} and the paper Über formale Theorien der Arithmetik\textsuperscript{166} I showed that for certain proofs it is far from being a matter of indifference whether a combination of signs—e.g. √-1—has a {reference} \textit{Bedeutung} or not, that, on the contrary, the whole cogency of the proof stands or falls with this. The {reference} \textit{Bedeutung} is thus shown at every point to be the essential thing for science. (c. 1892-95/1979, pp. 118, 123)\textsuperscript{167}

This is the major flaw of ordinary language and even piecemeal, or indiscriminate, attempts at definitions, according to Frege—they rarely give perspicuous referents to words, and hence fail to even be capable of capturing the definiteness of truth. “In this way,” he said, “we never have really firm ground underfoot. If we have no final definitions [that fix a referent in all possible cases,] we likewise have no final theorems. We never emerge from incompleteness and vagueness” (1903/1997, p. 264). Simply put, when it comes to science, we want to remove vagueness and “incompleteness,” so we must not be content with our normal concepts: “The sentences of our everyday language leave a good deal to guesswork...But a language that is intended for scientific employment must not leave anything to guesswork” (c. 1914/1979, p. 213).

The beauty of stipulative definitions is that they are “always a matter of associating with a sign a sense or a reference” (Frege, 1891/1952, p. 23). In the case of stipulation, we are guaranteed that the definiendum has as clear a sense or referent as the stipulated definiens. Since the point of stipulation, in accordance with \textit{FR}, would be to have definite conclusions capable of being drawn that were not possible before, the stipulator would not countenance a stipulation that did not end up being fruitful. Implementing \textit{FR} in this way is clearly applicable and useful not just in logic, but in all of the sciences. Consider, for example, the appeal of having an international governing body on weights and measures. Prior to them stipulating, say, how long a meter was, the word “meter” was vague. For ordinary measurements this created no problems, of course, but as merchants engaged in transactions and physical scientists investigated the world, the need for uniform terminology drove them to use ever more precise standards.\textsuperscript{168} Similarly,

\textsuperscript{165} Frege (The Foundations of Arithmetic, 1884/1980).
\textsuperscript{166} Frege (On Formal Theories of Arithmetic, 1885/1984).
\textsuperscript{167} Words in curly brackets are my translations of the German terms in brackets, not those of the original translators of the passage. See fn. 164 above for Frege’s original footnote on the second part of the passage and a discussion of the bracketed German terms.
\textsuperscript{168} It is interesting to note that there is current controversy about what the standard meter should be. Officially, according to the 1983 General Conference on Weights and Measures, it is the distance that light travels in a vacuum
Frege sought to standardize logical rules of inference to make for rigorous proofs. For example, Frege stipulates that his conditional connective is to represent the impossibility of a true conditional statement between a true antecedent and a false consequent. He anticipates future undergraduate confusion with the warning that while conditional statements often have causal connotations in ordinary discourse, the conditional connective is purely formal.\textsuperscript{169} Similarly, when talking about his technical sense of “thought,” he said,

\begin{quote}
Well, the important thing is that I remain true to my way of using it; whether this agrees with the ordinary use is of less importance…In logic, as in other sciences, it is open to us to coin technical terms, regardless of whether the words are always used in precisely that way in everyday life. It does not matter if the [\textit{Bedeutung}] we fix on is not altogether in line with everyday use or does not accord with the word’s etymology; what does matter is to make it as appropriate a vehicle as possible for use in expressing laws. (c. 1897/1979, pp. 136, 136-137)\textsuperscript{170}
\end{quote}

Precisifying the rules of inference for the sake of expressing laws would be futile unless the objects on which the rules apply are equally definite. Frege wrote,

\begin{quote}
The purity of the object of one’s investigation is not of importance only to the chemist. How would the chemist be able to recognize, beyond any doubt, that he has arrived at the same results by different means, if the apparent difference of means could be traced back to impurities in the substances used? There is no doubt that the first and most important discoveries in a science are often a matter of recognizing something as the same again. (c. 1897/1979, pp. 141-142)
\end{quote}

The reason that this is important is because “for every object there is one type of proposition which must have a sense, namely the recognition-statement, which in the case of numbers is called an identity” (1884/1980, p. 116).\textsuperscript{171} Indeed, without recognition-statements having senses “a scientific foundation for arithmetic would be impossible” (1903/1997, p. 278). Recall that Frege wanted to be able to understand (and show that he understands) the nature of arithmetic. Clearly, if the elements in the domain of arithmetic were so convoluted or vague, that it was not clear when they occurred in equations, this would be impossible. To give some “crude”
examples, our concepts must be defined so that it is clear that Julius Caesar is not a number, and that England is not a direction.\textsuperscript{172}

Definiteness for the sake of epistemology, however, cannot be the sole criterion for giving definitions. Our words should have \textit{substance}: “One can give the appearance of refuting any proposition whatever if one takes the liberty of understanding the words in such a way that the proposition loses its import” (Frege, 1906/1984, p. 314).\textsuperscript{173} That is, even though stipulation is artificial (since it rarely happens in ordinary language), it must not be arbitrary as Kant supposed, since there must be constraints based on ordinary usage. Weiner correctly notes that “[i]f Frege’s proofs are to show us that the truths of \textit{our} arithmetic are analytic, his definitions of the numbers must, in some sense, capture the content associated with our everyday use of the number words” (2004/2005, p. 50) and “[s]urely to stipulate that the number one is Julius Caesar is to change the subject” (2007, p. 677). To avoid “changing the subject,” Frege allows for ordinary language to have a provisional status:

In the first stages of any discipline we cannot avoid the use of ordinary words. But these words are, for the most part, not really appropriate for scientific purposes, because they are not precise enough and fluctuate in their use. Science needs technical terms that have precise and fixed meanings. (c. 1914/1979, p. 207)\textsuperscript{174}

On some occasions, Frege explicitly “…begin[s] by expressing [him]self in accordance with ordinary usage…until some more appropriate way of speaking is found” (1918-19/1984, p. 355). Presumably one reason that this is so is because it would be an extreme demand on a logician to come up with a sufficiently robust language \textit{from scratch}; ordinary language serves as a legitimate spring-board for constructing a perfect language. Another reason is that demanding that normal people live by a sufficiently logical language is uncalled for, since, as Bertrand Russell noted,

\begin{quote}
Actual languages are not logically perfect…and they cannot possibly be, if they are to serve the purposes of daily life. A logically perfect language, if it could be
\end{quote}

\textsuperscript{172} See Frege (1884/1980, pp. 68, 78).
\textsuperscript{173} Cf. Berkeley: “Allow a Man the Privilege to make his own Definitions of common Words, and it will be no hard matter for him to infer Conclusions, which in one Sense shall be true, and in another false, at once seeming Paradoxes and manifest Truisms” (1732/1752, p. 384).
\textsuperscript{174} Cf. Frege (c. 1897/1979, p. 128).
constructed, would not only be intolerably prolix, but, as regards its vocabulary, would be very largely private to one speaker. (1918/1956, p. 198)

According to Frege, this should not hold us back from developing a logically perfect language and using it when it can serve the cause of truth, better than a less “logical” language.

Frege demanded adherence to NC in an attempt to capture what is already useful in ordinary language. It is easy to misinterpret NC, however. Frege pointed out that any definition trivially gives a “thing” a property that it did not have before—namely, the property of being expressed, or referred to by a word that has a definition. What he did not explicitly point out is that there are other properties that a definition can give to a thing without violating ordinary word usage. What NC really amounts to is not illicitly giving things any properties, which would undermine true claims in ordinary language: “[i]f we extend the meaning of a word, we should take care that, so far as possible, no general proposition is invalidated in the process” (1884/1980, p. 98). With arithmetic in particular, the definition of number must be related to the number of ordinary life,...[otherwise we] would then be entirely cut off from science. Yet surely we are entitled to demand of arithmetic that its numbers should be adapted for use in every application made of number, even though that application is not itself the business of arithmetic...Let us try, therefore, whether we can derive from our definition of the Number which belongs to the concept F any of the well-known properties of numbers...[Like:] If \( a \) follows in the series of natural numbers directly after 0, then \( a \) is = 1...[and] Every Number except 0 follows in the series of natural numbers directly after a Number. (1884/1980, pp. 26, 81, 91, 92)

But it is possible to be consistent with these “ordinary” restrictions and nevertheless say, “I could have used for the definition of nought any other concept under which no object falls” (1884/1980, p. 88, emphasis added) and

For the mathematician, it is no more right and no more wrong to define a conic as the line of intersection of a plane with the surface of a circular cone than to define it as a plane curve with an equation of the second degree in parallel coordinates. His choice of one or the other of these expressions or of some other one is guided solely by reasons of convenience and is made irrespective of the fact that the expressions have neither the same sense nor evoke the same ideas. (1894/1984, p. 200, emphasis added)

The later Wittgenstein, of course, would take issue with the last remark, but Frege, in addition to Russell, might have been committed to it.
As long as definitions do not invalidate any propositions already *commonly accepted* or affirm any that are already *commonly not accepted*, they satisfy Frege’s *NC* requirement. As for the latter, it is crucial to distinguish propositions that are *commonly not accepted* from those that are *not commonly accepted*. For example, “2 + 2 = 5” is commonly not accepted since, either it has been explicitly denied or would be as an implication of propositions commonly accepted—e.g., “2 + 2 = 4” and “4 ≠ 5.” On the other hand, prior to the 19th century, *neither “2 is a set” nor “2 is not a set”* were commonly accepted or commonly not accepted, since these propositions never occurred to people. Thus, if Frege’s stipulative definition of “2” implies both that that “2 + 2 = 4” and “2 is a set,” both implications are in accord with the *NC* requirement. The commentators who have thought that *NC* was inconsistent with Frege’s work failed to interpret *NC* in this way.

### 3.5. Carrying the Project Out

Perhaps Frege was overly optimistic about the possibility of consistent linguistic engineering, since the ordinary language upon which Frege’s definitions are to be based might itself be inconsistent. Austin gave the following “general warning in philosophy”:

> It seems to be too readily assumed that if we can only discover the true meanings of each of a cluster of key terms, usually historic terms, that we use in some particular field (as, for example, “right,” “good” and the rest in morals), then it must without question transpire that each will fit into place in some single, interlocking, consistent, conceptual scheme. Not only is there no reason to assume this, but all historical probability is against it, especially in the case of a language derived from such various civilizations as ours is. (1961/1979a, p. 203)

Be that as it may, Frege’s definitional ambitions only applied to very specific portions of language (e.g., arithmetical language), which could be consistent even if the natural language on which the definitions are based was not consistent, as a whole. Frege was adamant that while ordinary language suffices for normal discourse, the inherent vagueness in many crucial words (or concepts expressed by the words), frequently makes understanding the problems of mathematics and philosophy (interesting language-games, as it were) impossible. One can imagine Frege smiling upon reading Hobbes’ claim that
a man that seeketh precise truth had need to remember what every name he uses stands for, and to place it accordingly, or else he will find himself entangled in words; as a bird in lime twigs, the more he struggles, the more belimed. And therefore in geometry (which is the only science that it hath pleased God hitherto to bestow on mankind) men begin at settling the significations of their words; which settling of significations they call definitions, and place them in the beginning of their reckoning. (1651/1994, p. 19)

Frege was pleased to bestow on mankind another science of mathematics—the foundations of arithmetic. Hobbes neglected to appreciate the difficulty in carrying this project out, however. Mill, on the other hand, not only saw it, but saw it as Frege did:

…the problem for the philosopher, and one of the most difficult which he has to resolve, is, in retaining the existing phraseology, how best to alleviate its imperfections. This can only be accomplished by giving to every general concrete name which there is frequent occasion to predicate, a definite and fixed connotation; in order that it may be known what attributes, when we call an object by that name, we really mean to predicate of the object. And the question of most nicety is, how to give this fixed connotation to a name, with the least possible change in the objects which the name is habitually employed to denote; with the least possible disarrangement, either by adding or subtraction, of the group of objects which, in however imperfect a manner, it serves to circumscribe and hold together; and with the least vitiation of the truth of any propositions which are commonly received as true. (Mill, 1843/1851, p. 41)

It is to Frege’s credit that his work in logic achieved these goals far better than did Mill’s, or anyone else’s. Though in his darker moments, Frege thought that his “efforts to become clear about what is meant by number have resulted in failure” (1924/1979, p. 263),176 would that all philosophers’ failures were so fruitful. Furthermore, through one of those happy coincidences in the history of philosophy, as Frege’s career was winding down, the promising career of one of Frege’s students—Rudolf Carnap—was starting. A quarter of a century after Frege’s death, Carnap’s entire philosophical outlook essentially involved linguistic engineering, and Carnap became analyticity’s greatest advocate.

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176 Fortunately, deep down Frege was not so pessimistic. In the year that he died, Frege gave his unpublished works to his son and made sure to tell him of their importance: “Do not despise the pieces I have written. Even if all is not gold, there is gold in them. I believe there are things here which will one day be prized much more highly than they are now. Take care that nothing gets lost. Your loving father” (Quoted by Beaney [1997, p. 9, typo corrected]).
CHAPTER FOUR
CARNAP AND QUINE THROW LIGHT ON THE INTERESTING WORD
“ANALYTIC”177

When it comes to analyticity, Carnap’s and Quine’s works are inseparably linked. That Carnap and Quine disagreed about the tenability of a fruitful analytic-synthetic distinction is both well-known and was explicitly avowed by each party, but exactly why they disagreed is an intricate issue. In 2009, a highly anticipated and immediately influential anthology was published, entitled *Metametaphysics: New Essays on the Foundations of Ontology*. Not only do the views of Carnap or Quine get mentioned in 14 of the 17 essays in the volume, most of the essays devote considerable discussion to Carnap and Quine.178 This is a clear indication that the two philosophers’ views remain relevant, or at least perplexing enough to warrant continued examination. My goal here is to primarily trace the development of Quine’s disagreements with Carnap, for the sake of getting a more comprehensive picture of the salient issues involved than is normally given. I then suggest what the Carnap-Quine debate was missing, and some prospects for how it might be advanced by present-day philosophers.

4.1. Historical Background on Carnap

Though the works of Carnap and Quine seem so near to us, and are so representative of 20th Century analytic philosophy (no doubt, in part due to the fact that Quine was actively publishing until 2000), Carnap was born in the early 1890s and his philosophical work was, in many respects, inspired by his undergraduate teacher, Frege—the quintessential 19th Century analytic philosopher—and Russell—whose most significant philosophical work was done in the first half of the century. Carnap was not an immediate convert to philosophical “Fregeanism” as a result of his schooling. The role that Frege served for Carnap at that time was to

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177 Cf. Quine: “[W]e may, indeed, view the so-called rule as a conventional definition of a new simple symbol ‘analytic-for-L0,’ which might better be written untendentiously as ‘K’ so as not to seem to throw light on the interesting word ‘analytic’” (“Two Dogmas of Empiricism,” 1951, p. 32). A discussion of the relevance of this quotation can be found below on p. 89.
178 In fact, two essays are exclusively devoted to the Carnap-Quine debate, and three others are exclusively devoted to one of the two philosophers.
“acquaint[ him] with a genuine logic…[and] indicate[] that the new logic to which he had introduced us, could serve for the construction of the whole of mathematics” (Carnap, 1963/1997a, pp. 4, 5). Carnap wrote that it was only later,

after the first world war, when I read Frege’s and Russell’s books with greater attention, did I recognize the value of Frege’s work not only for the foundations of mathematics, but for philosophy in general…From Frege I learned carefulness and clarity in the analysis of concepts and linguistic expressions, the distinction between expressions and what they stand for, and concerning the latter between what he called “Bedeutung” (denotation or nominatum) and what he called “Sinn” (sense or significatum). From his analysis I gained the conviction that knowledge in mathematics is analytic in the general sense that it has essentially the same nature as knowledge in logic…[T]his view became more radical and precise, chiefly through the influence of Wittgenstein. (Ibid., p. 6, 12, 12)

However, in between his initial exposure to Frege, and Carnap’s (first) precise formulation of analyticity, Carnap became acquainted with Russell’s work on logic and epistemology and was immediately captivated by it. This inspired a decade of original work by Carnap on logic, the nature of space and time, and the remarkable attempt to produce, rather than assume or vaguely outline, “an epistemic-logical system of objects” or concepts” (Carnap, 1928/1967, p. 5). Carnap called such a system “constructional,” but by contemporary philosophical parlance, it is classified as a “reductive” system—i.e., one that explains some relatively large set of phenomena in terms of a relatively small set of phenomena, thereby showing that the latter is more basic, or fundamental, than the former. The specific details of Carnap’s views on reductive systems are often neglected. Though logical positivists—the group of philosophers with whom Carnap is most often associated—are frequently caricatured as having held that all knowledge, meaning, and truth reduce exclusively to “sense data,” it is worth noting that in the Aufbau (Carnap,

179 Since Carnap took the word “object” in “its widest sense, namely, for anything about which a statement can be made” (1928/1967, p. 5), he saw himself as investigating “the logical structure of the world” (the title of Carnap [1928/1967]).

180 Along with readers not paying careful enough attention to Quine’s discussion of Carnap in relation to the similar looking “(radical) reductionism” (the other dogma of empiricism), this is undoubtedly, in part, a legacy of Ayer’s Language, Truth, and Logic (1936/1946/1952), in which a “sense-contents” reductive view was propounded. (See esp. pp. 59, 65, 140-141.) Ayer there remarked that “[t]he philosophers with whom I am in the closest agreement are those who compose the ‘Viennese circle,’ under the leadership of Moritz Schlick, and are commonly known as logical positivists. And of these I owe most to Rudolf Carnap” (Ibid., 32). Though Ayer did more than any other philosopher to introduce logical positivism to English speakers, he did so by substituting for the nuanced views of Carnap and the other Vienna Circle members, sweeping philosophical theses that easily implied answers to broad, oversimplified philosophical questions. Language, Truth, and Logic nonetheless remains a classic among philosophical polemics, in part due to the acrimony that the author expressed towards traditional metaphysics. Ten years after it was originally published, Ayer wrote, “Being in every sense a young man’s book, it [Language, Truth,
1928/1967), the very work most associated with that theory, Carnap explicitly rejected the view. In the Aufbau, he did explore an “autopsychological” (“solipsistic”) basis for knowledge, but there he explicitly maintained that the autopsychological basis was only one of several possible “rational reconstructions” and, inspired by Gestalt psychology, the elementary experiences were not to be thought of as atomistic, simple sensations, but as whole units, the constitutive atoms of which are reached by abstraction.\textsuperscript{181} Later in his career, Carnap focused on physical bases for epistemology instead of phenomenological ones, in part because of the possibility of intersubjective, scientific testing of the former, but not of the latter.

Carnap’s penchant for science and logic led him to associate with like-minded empiricists such as Reichenbach and Schlick, and cutting-edge logicians such as Gödel and Tarski (and eventually led Quine to associate with Carnap).\textsuperscript{182} Schlick helped bring Carnap to Vienna, where the former had spearheaded regular meetings of a group of philosophers and mathematicians, whose members eventually became known as “the Vienna Circle.”\textsuperscript{183} In their discussions, Wittgenstein’s Tractatus (1921/2005) was a point of focus, and some of the group (including Carnap) were able to interact with Wittgenstein himself (idiosyncrasies and all).\textsuperscript{184} Carnap was primarily impressed with two of Wittgenstein’s tenets from the Tractatus. First, “was the insight that many philosophical sentences, especially in traditional metaphysics, are pseudo-sentences, devoid of cognitive content” (Carnap, 1963/1997a, p. 25). Second, there was the conception that the truth of logical statements is based only on their logical structure and on the meanings of the terms. Logical statements are true under all conceivable circumstances; thus their truth is independent of the contingent facts of the world. On the other hand, it follows that these statements do not say anything about the world and thus have no factual content. (Ibid.)

\textit{and Logic} was written with more passion than most philosophers allow themselves to show, at any rate in their published work, and while this probably helped to secure it a larger audience than it might have had otherwise, I think now that much of its argument would have been more persuasive if it had not been presented in so harsh a form” (1946/1952, p. 5).

\textsuperscript{181} See esp. Carnap (1928/1967, pp. 92ff, 107ff). In Carnap (1936), Carnap denied that the members of the Vienna Circle held “the idealistic pseudo-thesis” that “A physical object-name (e.g. the word ‘moon’) is reducible to sense-data predicates (or perception predicates)” (p. 429).

\textsuperscript{182} This shared emphasis on logic and empiricism naturally led others to classify Carnap, Schlick, etc. first as “logical positivists” and then as “logical empiricists.” Carnap took no pride in either title, as their connotations (e.g., with the positivism of Comte and Mach) obscured the new philosophers’ break from tradition, and the specific differences amongst them.

\textsuperscript{183} It is difficult (if not futile to try) to pin down the exact point at which the Vienna Circle commenced, and who all qualifies as “members,” but the untimely death of Schlick in 1936 marks the definitive end of the group.

\textsuperscript{184} Carnap and Wittgenstein’s relationship (both professional and personal) came to an abrupt end in 1932 when the two had a falling out. See Kuusela (2012, esp. Sec. 3) for a discussion.
As will become clear below, the Carnap-Quine debate emerged from disputes about how to develop these two tenets.

4.2. Carnap’s Initial Diagnosis of Pseudo-Problems in Philosophy

In rough outline, here is how many philosophical debates go: questions, recognized as philosophical—in part because they are controversial—are raised (e.g., in metaphysics, “What kind of substance(s) compose the world? Material? Mental? Both? Some other alternative?”), and then philosophers argue for (or try to figure out) the correct answer. Nevertheless, the questions persist, and the answers remain contentious. This state of philosophical affairs was intolerable to Carnap. He wrote,

Even in the pre-Vienna period, most of the controversies in traditional metaphysics appeared to me sterile and useless. When I compared this kind of argumentation with investigations and discussions in empirical science or in the logical analysis of language, I was often struck by the vagueness of the concepts used and by the inconclusive nature of the arguments. I was depressed by disputations in which the opponents talked at cross purposes; there seemed hardly any chance of mutual understanding, let alone agreement, because there was not even a common criterion for deciding the controversy. (1963/1997a, pp. 44-45)

As Kant had chided the pre-Critical metaphysicians as being dogmatical, since they self-assuredly used reason to deduce metaphysical theses without investigating the legitimate possible use of reason itself, members of the Vienna Circle accused other philosophers of putting forth metaphysical theses without investigating the very possibility of rational agreement and disagreement over any truth-apt theses whatsoever.

The members of the Vienna Circle roughly agreed that (1) the possibility of rational agreement or disagreement presupposes that the debate involves “meaningful” sentences;

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185 I suppose this is too pessimistic a picture of what actually happens in philosophy. Historically, at least, Russell was correct to say that “as soon as definite knowledge concerning any subject becomes possible, this subject ceases to be called philosophy, and becomes a separate science. The whole study of the heavens, which now belongs to astronomy, was once included in philosophy; Newton’s great work was called ‘the mathematical principles of natural philosophy.’ Similarly, the study of the human mind, which was a part of philosophy, has now been separated from philosophy and has become the science of psychology. Thus, to a great extent, the uncertainty of philosophy is more apparent than real” (1912/1997, p. 155).
(2) some sentences are “cognitively”\textsuperscript{186} meaningful solely in virtue of the meanings of their logical and mathematical terms\textsuperscript{187}—i.e., are analytically true or false; (3) all other cognitively meaningful sentences, the empirical sentences, are meaningful in virtue of their being empirically “verifiable” in some sense; (4) traditional metaphysical theses are neither analytic nor verifiable; and (5) a plausible error theory for why the \textit{a fortiori} meaningless metaphysical theses are so common is because it is frequently the case that

sentences are uttered which are taken to assert something, although in fact nothing is asserted, whether truly or falsely. Such self-deceptions have their source, for the most part, in the structure of our common-day language. For our common language is well adapted for obtaining the gross agreements necessary in practical affairs; but when employed in theoretical pursuits to formulate and communicate knowledge, it is very often not merely inadequate but even seriously misleading. (Carnap, 1937a, p. 108)\textsuperscript{188}

If, upon examination, something is shown to not succeed in saying anything substantive, that thing became prefixed with “pseudo-” (e.g., “pseudo-sentences,” “pseudo-questions,” etc.), and was held to lack any philosophical interest.

While the present focus is on meaningful sentences of the analytic sort, due to the centrality and notoriety of the principle of verifiability, a brief aside on empirically meaningful sentences is in order. Remarks from the \textit{Tractatus} like “To understand a proposition means to know what is the case if it is true” (Wittgenstein, 1921/2005, prop. 4.024),\textsuperscript{189} inspired the Vienna Circle’s principle of verifiability for meaning. In rough form, the principle had been initially formulated as “the thesis that a sentence is meaningful if and only if it is verifiable, and that its

\textsuperscript{186} Cognitively meaningful sentences are those that can be true or false. Sentences, even some that cannot be true or false, can also be meaningful in non-cognitive ways—e.g., have “emotive” or “volitional-motivational” meaning. See Feigl (1943/1949, pp. 6-9) for a discussion.

\textsuperscript{187} Of course, all other terms in such meaningful sentences must be in the appropriate grammatical categories, so that the sentence is well-formed, but beyond that constraint, \textit{their} meanings are irrelevant from the standpoint of meaningfulness of the sentence. Another idiom that the positivists used for analyticity is “true in virtue of form.”

\textsuperscript{188} Cf. Russell: “There are a great many sorts of incomplete symbols in logic, and they are sources of a great deal of confusion and false philosophy, because people get misled by grammar. You think that the proposition ‘Scott is mortal’ and the proposition ‘The author of \textit{Waverley} is mortal’ are of the same form. You think that they are both simple propositions attributing a predicate to a subject. That is an entire delusion: one of them is (or rather might be) and one of them is not. These things, like ‘the author of \textit{Waverley},’ which I call incomplete symbols, are things that have absolutely no meaning whatsoever in isolation but merely acquire a meaning in a context” (1918/1956, p. 253).

\textsuperscript{189} As reported by Sluga, “Waismann’s notes on his conversations with Wittgenstein reveal that for a while he actually came to subscribe to the verificationist principle of meaning advanced by the group, that is, the assumption that the meaning of a sentence is fixed by its method of verification. However, Wittgenstein eventually transformed this principle into the more generous thesis that the meaning of a sentence is its use—one of the mainstays of his later philosophy” (1996/2007, pp. 14-15).
meaning is the method of its verification” (Carnap, 1936, p. 421). While it is now widely held that this principle of verifiability is either self-undermining (since it is unverifiable)\(^{190}\) or has been decisively refuted—in works like Church (1949), Hempel (1950/1951/1965/2008), and Kuhn (1962/1970/1996, esp. pp. 144ff)—it is often overlooked that even before those objections were raised, Carnap was already convinced by the debates with Neurath regarding protocol sentences,\(^{191}\) and with Popper regarding falsifiability,\(^{192}\) that verifiability in this sense could not be maintained. In the long\(^{193}\) paper “Testability and Meaning” (1936, 1937b), Carnap reincarnated the principle of meaningfulness for empirical statements as involving confirmability, rather than verifiability.\(^{194}\) Since the laws of science are universal (and would thus require infinitely many corroborations to be verifiable), they are not capable of being definitively verified. Even when it comes to sentences mentioning only particular states of affairs, the specter of skeptical hypotheses always undercuts definitive verification. Thus, what scientists (and everyone else) can do is confirm whether empirical sentences are more or less probably true given the evidence. If they could be more or less probably true, then they are meaningful by the principle of confirmability. A major project of Carnap’s was to clarify the notion of probability involved here.\(^{195}\)

\(^{190}\) It is worth noting that this objection misses the mark, since there are various ways that the positivists could have responded, which are prima facie consistent with their view. First, the principle of verifiability might be looked at as a prescription, or proposal—“only countenance verifiable sentences!” Depending on the favored ethical theory of the philosopher in question, it can be argued that this is verifiable since it is a report of someone’s wish (and hence true if an accurate report); or it is not verifiable since it is an expression of someone’s desire, but that makes it no more illegitimate than any other normative claim. (Of course ethical subjectivism and expressivism are themselves questionable doctrines in these simple formulations, but that fact is beside the point at hand—namely whether objecting that the principle of verifiability is unverifiable is an immediately decisive refutation.) Second, it might be claimed that the principle is put forward as an elucidation, in the sense of Tractatus proposition 6.54: “My propositions serve as elucidations in the following way: anyone who understands me eventually recognizes them as nonsensical, when he has used them—as steps—to climb up beyond them. (He must, so to speak, throw away the ladder after he has climbed up it.) He must transcend these propositions, and then he will see the world aright” (Wittgenstein, 1921/2005). (That this proposition is questionable is, again, beside the present point.) Third, it might be maintained that it is possible to show that the principle is analytic (and, thus, not in need of empirical verification). Finally, Chalmers has suggested that the principle might be “bedrock”: “In effect, bedrock concepts are concepts so basic that we cannot clarify substantive disputes involving them in more basic terms...[Q]uestions concerning which concepts (or families) are bedrock are among the deepest questions in philosophy... Verificationists may hold that only observational expressions are bedrock” (2011, pp. 550, 550, 551).

\(^{191}\) See Carnap (1932/1987).

\(^{192}\) See Popper (1963/1997).

\(^{193}\) Indeed, so long that the editors of The Philosophy of Science periodical broke it up into two parts.

\(^{194}\) For a discussion of the evolution of Carnap’s views on cognitive significance and some objections that have been put forth against those views, see Justus (2006).

\(^{195}\) In addition to Carnap (1950), see Kemeny (1963/1997) and Carnap’s reply.
4.3. Carnap’s Initial Remedy for Pseudo-Problems in Philosophy: Logical Syntax

Pseudo-sentences purport to be about the material world, and they are classified as being in the “material mode” of speech. While we must accordingly be wary of sentences in the material mode, we ought not to assume that any given material mode sentence is meaningless by this association with pseudo-sentences. Carnap wrote,

I do not mean that the sentences of the material mode are themselves necessarily pseudo-theses or without sense, but only that they often mislead us into stating other sentences or questions which are so. For instance, in the material mode we speak about numbers instead of numerical expressions. That is not in itself bad or incorrect, but it leads us into the temptation to raise [metaphysical pseudo-] questions as to the real essence of numbers, such as the philosophical questions whether numbers are real objects or ideal objects, whether they are extramental or intramental, whether they are objects-in-themselves or merely intentional objects of thinking, and the like. (1935/1963, p. 451)\(^{196}\)

To see whether a given sentence in the material mode is meaningful, one must determine whether it says something substantive either (a) about the material world (in virtue of being confirmable or “disconfirmable”), or (b) about language use. When a sentence in the material mode does not qualify as an empirical sentence—i.e., satisfy (a)—the test for whether it is cognitively meaningful is to translate it into a sentence about language use—i.e., translate it into a sentence in the “formal mode” of speech—and see if that sentence is meaningful.\(^{197}\) If a sentence in the formal mode does not accord (in a sense to be specified) with the language in which it is allegedly a part, then it is a pseudo-sentence.

One way to frame Carnap’s mid-1930’s view of philosophy, is over the usefulness of certain kinds of sets and their members. Members of the set of natural numbers are, among other things, useful for counting goods in the marketplace, and in the United States, members of the set of positive rational numbers to the hundredths place are useful for buying such goods.\(^{198}\) Of
course, sets need not have numbers as their members. For example, according to current astronomical standards, the set of planets in the same solar system as earth, has eight non-numerical elements. For any non-empty set, there are criteria capable of being stated as to why the members of the set belong in the set, and why the members of the complimentary set belong in the compliment. While the criteria determining some sets are independent of other sets (e.g., inclusion in the set of planets is astronomical, not set-theoretical), the criteria of some sets essentially involves other sets. For example, the modern English lexicon (at least as stated in a single dictionary) is a set of elements—words and phrases—which are strings of elements from another set—the modern English alphabet, made up of 26 letters. The lexicographers’ job is to indicate which strings of letters are well-formed (vis-à-vis the characteristic communicative practices of English speakers, as best that they can tell), and the most common way that this is done is by the enumeration of well-formed words and phrases. While such lexicography is cumbersome, it is not practically impossible since at any given time, the lexicon only has finitely many elements. At the level of English sentences, however, enumeration of well-formed units is impossible since portions of English grammar are recursive, and hence the set of well-formed English sentences is infinite. The criteria for well-formed English sentences must then be a set of schematic rules of sentence formation. The criteria for legitimately associating some English sentences with others must be a set of schematic rules of transformation; when dealing with a logical language, the “legitimate associations” amount to “legitimate inferences.” In like manner, all languages are sets of well-formed linguistic elements, and the set of the formation and transformation criteria determining the elements is called the “syntax” of the language (whether enumerative or schematic). For example, the syntax of sentential logic (a “logical language”) is the set of recursive rules determining well-formed sentences on the basis of atomic sentences and the standard connectives, and inference rules determining valid inferences on the basis of well-formed premises.

When analyticity first appeared as a key element in Carnap’s philosophy, he put it forth as a purely syntactical concept—i.e., as not depending in any way on semantics (“meanings,” “[factual] truth,” or any notion relating to language use that goes beyond linguistic symbol manipulation). This characterization might be misleading however, because purely syntactical

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199. To accommodate cases of vagueness, the universe of discourse for the sake of complementation should not include borderline cases.
concepts are based on logico-mathematical transformation rules, which do take account of semantic facts. For example, modus ponens was taken as a rule of transformation in the languages that Carnap discussed, since the meanings of “if” and “then” of the conditional guarantee that the inference is truth preserving. To illustrate how pure syntactic concepts are possible, Carnap gave the following hypothetical example:

Given an appropriate [formation] rule [of this hypothetical language], it can be proved that the word-series “Pirots karulize elatically” is a sentence, provided only that “Pirots” is known to be a substantive (in the plural), “karulize” a verb (in the third person plural), and “elatically” an adverb; all of which, of course, in a well-constructed language—as for example, in Esperanto—could be gathered from the form of the words alone. The meaning of the words is quite inessential to the purpose, and need not be known. Further, given an appropriate [transformation] rule, the sentence “A karulizes elatically” can be deduced from the original sentence and the sentence “A is a Pirot”—again provided that the type to which the individual words belong is known. (1934/1937/1959, pp. 2-3)

In The Logical Syntax of Language, Carnap argued that analyticity was one of the logical features of syntactically defined, but semantically uninterpreted languages. Thus, “X is analytic” is a sentence in a metalanguage—i.e., one whose sentences are in the formal mode—and “X” is a sentence of an object language—i.e., a given, syntactically defined, but semantically uninterpreted language. At this time, Carnap identified analytic sentences with those that he called “L-valid”—i.e., derivable solely on the basis of logical transformation rules—so that “[b]y the means of the concept ‘analytic,’ an exact understanding of what is usually designated as ‘logically valid’ or ‘true on logical grounds’ is achieved” (Carnap, 1934/1937/1959, p. 41). In the hypothetical example, something like the following would be analytically true: “if Pirots karulize elatically and A is a Pirot, then A karulizes elatically.” Carnap explicitly limited his focus at this time to artificial languages—i.e., sets of sentences that are (1) well-formed in virtue

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200 See p. 13 above for a formulation of modus ponens, formulated in contemporary sentential logic.
201 One of Carnap’s main goals in The Logical Syntax of Language, was to show that a relatively “weak” language from the perspective of deducibility (what he calls “Language I,” sufficient for deducing theorems of intuitionistic mathematics, but not classical mathematics) can serve as its own metalanguage to state syntactical properties like analyticity, and “stronger” languages (e.g., “Language II,” sufficient for classical mathematics) can likewise serve as their own metalanguages. The method of doing this was to use Gödel’s ingenious arithmetization technique of associating all symbols of the language with unique numbers (on the basis of the fundamental theorem of arithmetic).
202 “L-rules,” which “are usually chosen in such a way that they seem to be right for logical or mathematical reasons” (Carnap, 1935/1963, p. 440). In addition to the L-rules, physical rules (P-rules) were also admissible. These are “transformation rules of an extra-logical character, for instance some physical laws as primitive sentences, as, for example, Newton’s principles of mechanics, Maxwell’s equations of electromagnetics, the two principles of thermodynamics, and such like” (Ibid., p. 441).
of stipulated formation and transformation rules, and (2) not used as everyday languages—since
the syntactical rules of natural languages (like English, German, etc.) “would be so complicated
that it would hardly be feasible in practice [to state them]” (1934/1937/1959, p. 2). As will be
shown below, it was especially with regards to natural languages that Quine expressed
misgivings over analyticity.

In the mid-1930s, however, Quine had almost no qualms with Carnap’s work at all; in a
letter to Carnap, Quine wrote “Naturally, I am in complete agreement with the ideas of your
book [The Logical Syntax of Language]…[excepting some] technical side issues” (“Quine to
Carnap,” 1990 [orig. 1934], p. 151), and Quine would later say that upon meeting Carnap in
Prague in 1933, he quickly “became an ardent disciple” (Quine, 1988/2008, p. 25). Quine gave
his first formal discussion\(^\text{203}\) of Carnap’s work in 1934; there, while Quine offered a
characteristically “Quinean” suspicion of intensional terminology,\(^\text{204}\) he also gave a sympathetic
appraisal of Carnap’s take on such terms that would shock readers only familiar with
“Two Dogmas of Empiricism”:

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\text{[A]mong all these [antecedently] accepted sentences which we choose to give up last [in the face of new discoveries], if at all, there are those which we are not going to give up at all, so basic are they to our whole conceptual scheme. These, if any, are the sentences to which the epithet “a priori” would have to apply. And we have seen during…[the earlier discussion] that it is convenient so to frame our definitions as to make all these sentences analytic, along with others, even, which were not quite so firmly accepted before being raised to the analytic status. But all this is a question only of how we choose to systematize on language…Such concepts as “content” and “synonymity” are usually couched in hopelessly vague terms; such is to a lesser extent the case also with “[logical] consequence,” “analytic” and “synthetic.” The problems associated with the notions are vaguely handled in epistemological logic or intensional logic or theory of meaning. Such matters here [i.e., in Carnap’s work] become sharply formulated for the first time and put on a basis where we have full command of what we are talking about: the basis, namely, of formal syntax. (1934/1990, pp. 65, 65, 81)
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Though Carnap’s views evolved over time, he remained loyal to most of the emphases that
Quine expressed in this passage—the privileged status of certain elements of our ordinary
conceptual scheme; the call to engineer languages, in part by specifying analytic sentences,

\(^{203}\) As opposed to earlier conversation or correspondence.

\(^{204}\) Recall from the discussion of Frege above on p. 52, that the extension of “X” is the set of things that qualify as
“X.” The intension of “X” amounts to those elements relevant to the use, or understanding of “X” not capable of
being captured by its extension. Meanings of words, and modalities of truth are two putative intensions.
based on pragmatic considerations; and the value of precisifying terms from natural languages. In spite of Quine’s subsequent reservations with, or outright denunciations of these tenets, it is often overlooked that early in his career, he accepted them:

> [It] must be admitted that there are difficulties to be ironed out [with Carnap’s view]. We cannot be sure that we have found the key to the universe. Still Carnap has provided us, at worst, with a key to an enormous part of the universe. He has in any case shown conclusively that the bulk of what we relegate to philosophy can be handled rigorously and clearly. (Quine, 1934/1990, p. 103)

It may not be too much of an exaggeration to say that Quine eventually ended up thinking that Carnap’s mature philosophical views provide us, at best, with a key to a small part of the universe. The primary questions that presently concern us, then, are how this change came about, and whether the change was warranted.

### 4.4. Carnap’s Cure for Pseudo-Problems in Philosophy: Logical Semantics

It was Carnap, rather than Quine, who first dissented from the Carnapian view of the early 1930s. While Carnap had then only constructed two languages, he certainly did not limit the study of logical syntax to those two. On the contrary, he explicitly rejected limiting the construction of languages:

> It is not our business to set up prohibitions [on forms of language], but to arrive at conventions...In logic, there are no morals. Everyone is at liberty to build up his own logic, i.e. his own form of language, as he wishes. All that is required of him is that, if he wishes to discuss it, he must state his methods clearly, and give syntactical rules...[S]ince there are no morals in logic, what meaning can “admissible” have here? The problem can only be expressed in this way: “How shall we construct a particular language? Shall we admit symbols of this kind or not? And what are the consequences of either procedure?” It is therefore a question of choosing a form of language. (1934/1937/1959, pp. 51, 52, 164; section number omitted, emphasis in original)

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205 See also Quine’s (1935) review of Carnap’s *The Logical Syntax of Language.*

206 In spite of disagreeing with Carnap’s specific views, Quine always held that Carnap’s ways of doing philosophy were valuable, from a broad perspective. “Amid all these repudiations and departures, then, what is his [Carnap’s] central and enduring contribution?” Quine asked, and responded with: “I see two. One is the celebration of rigor and the scientific spirit. My own criticisms have been leveled according to those same Carnapian standards, urging more of the same. The other enduring contribution is the linguistic turn. It was above all Carnap that gave language its central position in the subject matter of serious latter-day philosophy, and the focus on language illuminates philosophical issues as never before” (1984/2008, p. 128).
Especially inspired by Tarski, Carnap came to think\(^{207}\) that syntax needed to be supplemented with semantics—even “meanings” ought to be tolerated, so long as they are given a rigorous analysis. His change in attitude can be gauged by noting the subtle but important differences between the original call for tolerance and the following similar statement in 1950:

> To decree dogmatic prohibitions of certain linguistic forms instead of testing them by their success or failure in practical use is worse than futile; it is positively harmful because it may obstruct scientific progress…If someone wishes to speak in his language about a new kind of entities, he has to introduce a system of new ways of speaking, subject to new rules; we shall call this procedure the construction of a linguistic framework for the new entities in question…To be sure, we have to face at this point an important question; but it is a practical, not a theoretical question; it is the question of whether or not to accept the new linguistic forms. The acceptance cannot be judged as being either true or false because it is not an assertion. It can only be judged as being more or less expedient, fruitful, conducive to the aim for which the language is intended. (1950/1956/1983/1998, pp. 257, 242, 250)\(^{208}\)

First, note that Carnap went from demanding “syntactical rules” to simply “rules,” allowing room for semantical rules. Second, in the later work, Carnap is more explicit about why one language is to be chosen over another—since languages are tools which can be more or less effective at achieving our ends,\(^{209}\) it is rational to choose which languages to use, on pragmatic grounds.\(^{210}\) Consider, for example, “the purposes for which semantical analyses are made, viz. the analysis, interpretation, clarification, or construction of languages of communication, especially languages of science” (\textit{Ibid.}, 256). Third, Carnap no longer limits philosophical discussion to “forms of language,” but now allows discussions of “entities” in the unqualified sense of “referent of a term.” Importantly, he argues that “the acceptance of a language referring to \textit{abstract} entities [such as properties, classes, relations, numbers, propositions, etc.]…does not imply embracing a Platonic ontology but is perfectly compatible with empiricism and strictly

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\(^{207}\) For a detailed discussion of some of the reasons that led Carnap to semantics, see Awodey (2007).

\(^{208}\) N.B. The order of the excerpts given in this block quote is different from Carnap’s original order. I did this so that the 1950 passage has an analogous structure to the 1934 one.

\(^{209}\) “As a hammer helps a man do better and more efficiently what he did before with his unaided hand,” Carnap wrote, “so a logical tool helps a man do better and more efficiently what he did before with his unaided brain, that is, by means of instinctive habits rather than through deliberate acts guided by explicit rules” (1943/1961, p. viii).

\(^{210}\) When prompted to discuss his relation to pragmatism, Carnap said: “I put now more emphasis than previously upon…points where the development of a conceptual system or of a theory involves practical decisions; and upon the fact that all knowledge begins with and serves the relations between a living organism and its environment…The influence of the pragmatist ideas has been very fruitful for the development of my conceptions” (1963/1997b, p. 861). See also Richardson (2007).
scientific thinking” (*Ibid.*, 242, emphasis added, bracketed list imported from earlier in Carnap’s paper). Quine was so “alarmed” upon learning of Carnap’s “intensional propensities” that he wrote to Carnap, “I fear your principle of tolerance may finally lead you even to tolerate Hitler” (“Quine to Carnap” [Quine, 1990 (orig. 1938), pp. 239, 240, 241]).\(^{211}\) Quine had looked upon Carnap as the arch-anti-metaphysician, who was making progress in clearly delimiting sense from nonsense solely on the basis of a purely extensional syntax—i.e., based on explicit rules of sentence formation and transformation referring only to scientifically respectable, physicalistic\(^{212}\) entities. Thus, one can appreciate Quine’s amazement to hear that “Relentless Rudolf…the scourge of metaphysics” (Quine, 1987/2008, p. 142) was countenancing non-extensional languages, along with their ostensibly hypostasized (“Platonic”) entities and truth’s modalities. As an apology to this seeming regression back towards metaphysics, Carnap prefaced his *Introduction to Semantics* with,

> Some metaphysicians have indeed raised futile issues concerning [the semantical concept] truth, or rather the Truth, and I certainly should not like to help in reviving them. The same, however, holds for many other concepts, e.g. number, space, time, quality, structure, physical law, etc. Should we then refrain from talking about them in a non-metaphysical, scientific way? It seems to me that the only question that matters for our decision in accepting or rejecting a certain concept is whether or not we expect fruitful results from the use of that concept… Will the semantical method lead to fruitful results? Since the development of semantics is still in its very beginning, it is too early to give a well-founded answer. (1942/1961, p. xii)\(^{213}\)

The question of fruitfulness is indicative of exactly why Carnap and Quine disagreed about robust semantics—they were optimistic and pessimistic, respectively, about whether the semantical project that Carnap was pursuing was a useful enterprise, specifically for the purposes of science.

Carnap’s tolerance of semantics had a significant impact on his theory of analyticity. In the *Logical Syntax*, the only meanings incorporated into the languages were those of the logico-mathematical terms, so the only sentences that could be true in virtue of meanings were the logico-mathematical truths. Now that Carnap allowed for meanings of *non*-logico-mathematical

\(^{211}\) Upon reading this letter, Carnap only wrote “!” next to the quoted sentence.

\(^{212}\) See Carnap (1931/1959).

\(^{213}\) Cf. one of Quine’s favorite anecdotes about Carnap: “When I protested his defection [towards semantics], he replied, ‘What would you think of an entomologist who refused to study lice and fleas because he disliked lice and fleas?’” (Quine, 1987/2008, p. 145) (This is actually a slight misquotation of a letter from Carnap. See Carnap [1990 (Orig. 1938), p. 245].)
terms to be part of the rules of the language, the logical truths were only a proper subset of the analytic truths. Carnap admits that Quine “made clear” to him that

language is rich in sentences that are analytic in a much wider sense than L-true. These sentences cannot be described as true or false until the meanings of their descriptive terms are understood as well as the meanings of their logical terms. (1966/1995, p. 259)

To see how anything can be understood well, as Carnap saw it, clarity regarding his theory of linguistic frameworks is required. 214

“Linguistic framework” is a term of art—there is no reason for anyone to understand what it means until Carnap stipulatively defined it. However, the fact that he introduced the reader to the term before sufficiently explaining it is relevant. At the beginning of “Empiricism, Semantics, and Ontology,” he was presenting linguistic frameworks as an essential tool for the sake of answering certain ontological questions, from an empiricist standpoint. Since no ontologist who has not read more of the paper would agree with this (again, since “linguistic framework” had not even been sufficiently defined at this point), Carnap’s discussion there should be read as “I will henceforth show that introducing this technical term will help solve the problem of ontology for empiricists.” Linguistic frameworks are not important in some a priori, sacrosanct way. They are introduced as a solution to what Carnap takes to be a serious problem—namely, that debates over stances like nominalism and realism215 have been futile because “I cannot think of any possible evidence that would be regarded as relevant by both philosophers, and therefore, if actually found, would decide the controversy or at least make one of the opposite theses more probable than the other” (1950/1956/1983/1998, p. 254). Linguistic frameworks are, roughly speaking, languages where this lack of possible evidence is remedied by giving “rules for forming statements and for testing, accepting, or rejecting them” (Ibid., pp. 243-244). The rules can be empirical—“[r]esults of observations are evaluated according to certain rules as confirming or disconfirming evidence for possible answers”—or logical—“analysis based on the rules for the new expressions. Therefore the answers are here analytic” (Ibid., pp. 243, 244). Thus, once the standard interpretation of logical connectives, predicates, etc. and the rules for well-formed sentences involving entities are given (so that, e.g., “there are

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214 I thank Stephen Kearns for asking some penetrating questions about Carnap’s views on linguistic frameworks, prompting me to make some of the following characterizations as clear as possible.

215 See fn. 37 above for a rough description of these views.
five books on the table” is well-formed), the “two essential steps” in constructing a framework are:

First, the introduction of a general term, a predicate of higher level, for the new kind of entities, permitting us to say of any particular entity that it belongs to this kind (e.g., “Red is a property,” “Five is a number”). Second, the introduction of variables of the new type. The new entities are values of these variables; the constants (and the closed compound expressions, if any) are substitutable for the variables. (Ibid., p. 249)

A framework, then, is simply a language incorporating these rules (which might be empirical or logical), just as arithmetic is a language incorporating the Peano axioms.

Presumably, metaphysics is not metalinguistics, since (most) metaphysical claims are not about language. One might then be puzzled by the internal question phrase “entities within the framework”—how can non-linguistic entities be “within” something linguistic? Perhaps the metaphor of “within” is infelicitous here, but one can think of “entities within the framework” as analogous to “characters within the fictional story” (although it is not a perfect analogy). The only way to talk about entities is via language, so talk about entities will be “within,” or part of, some larger linguistic framework. (Recall the antecedent of Carnap’s conditional in the passage quoted on p. 79, above: “If someone wishes to speak in his language about a new kind of entities….”) What Carnap demanded is that the rules underlying the linguistic framework be perspicuous, since when that is the case, parties of an ontological dispute can readily agree on the criteria for justifying whether an entity being talked about exists—the entity’s existence is what Carnap calls an “internal question” of the explicitly defined framework. Now clearly, there are multiple languages in which it can be made explicit whether an entity being talked about by a given term or phrase exists. “External questions” are questions over whether it is more useful to use one of these languages than another, and answers to these questions can only be argued for on pragmatic grounds. Thus, there are two philosophically respectable broad ontological questions that can be asked: those that are clearly intended as internal or external questions, and are to be answered theoretically and pragmatically, respectfully. Of course philosophers can pose other queries of existence not fitting either of these molds, but such queries are pseudo-questions, in the sense that there is no way to justify a correct answer.216

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216 One might wonder, “what linguistic framework gives the rules for the language that Carnap uses in ‘Empiricism, Semantics, and Ontology?’” Strictly speaking, there is no linguistic framework in this case, since the language he is using is English, the rules of which are implicit, vague, etc. In looser terms, however, he is speaking in a linguistic framework like (parasitic on, but not identical to) English, since he has given explicit rules for the use of “linguistic...
Carnap’s characterization of analyticity (in observation languages)

straightforward. Since frameworks incorporate standard logical rules, logical truths are
demonstrable, as in the syntactical forms of language—i.e., ignoring all “meanings” of non-
logical terms. But what about an analytic truth that is not strictly a logical truth, such as the
familiar “If Jack is a bachelor, then he is not married”? (This very sentence is discussed by
Carnap.) Symbolizing this in predicate logic (using obvious abbreviations) gives “Bj ⊃ ~Mj.”
Of course, this cannot be derived solely on the basis of syntax since, for example, the conditional
is false if the predicates are interpreted as “is a biophysicist” and “is the planet Mars,”
respectively. In order to force the conditional to be derivable in the language (and not be in need
of any empirical confirmation), some rule must be added to the language preventing the
conditional from being false. In this case, the rule is obvious: (∀x)(Bx ⊃ ~Mx). Since in building
the language, we have specific interpretations in mind for these predicates, we can force them to
have the same relations that we suppose their natural-language inspirations have by including
such rules, which Carnap called “meaning postulates” (and, later, A-postulates). Ostensibly,
“bachelor” and “married” are related in the following way: “if someone is a bachelor, then that
framework,” and presumably could have given a rational reconstruction of the rest of the language he is using. To
see this point, consider the fact that most people have little difficulty in using basic numerical terminology—
“numbers, including variables and the general term ‘number,’ are generally used in our common language of
communication; and it is easy to formulate explicit rules for their use. Thus the logical characteristics of this
framework are sufficiently clear” (1950/1956/1983/1998, p. 254). In a similar sense, English speakers could be
looked at as having accepted a certain linguistic framework, for which “there is usually no deliberate choice because
we all have accepted the thing language early in our lives as a matter of course” (Ibid., p. 243). Regardless of
whether or not the language Carnap is using can be looked upon as a framework, the language he is using is
“practically useful...not as ingredient parts of the system, but merely as marginal notes with the purpose of
supplying to the reader helpful hints of convenient pictorial associations which may make his learning of the use of
the expressions easier than the bare system of the rules would do. Such a characterization is analogous to an extra-
systematic explanation which a physicist sometimes gives to the beginner. He might, for example, tell him to
imagine the atoms of a gas as small balls rushing around with great speed” (Ibid., p. 247).

217 Carnap held that analyticity requires an exceptional analysis in scientific frameworks involving theoretical terms
(i.e., theoretical languages). Theoretical terms such as “electron,” “gravity,” etc. do not refer to observable entities,
but the terms serve useful roles within a scientific theory. Since theoretical terms cannot, in general, be given
definitions (in any straightforward sense), how ought one to build them into a scientific framework? Carnap’s
proposed solution was to Ramsify (i.e., existentially quantify over each term and predicate) the conjunction
specifying the proposed theory, and set up as a meaning postulate a conditional with the Ramsified theory as the
antecedent, and the conjunction specifying the theory as the consequent. Carnap argues that this conditional is
analytically true, and hence he seems to have provided a way of introducing theoretical terms without making
unnecessary ontological commitments. See Carnap (1958/1975), Carnap (1963/1997b, pp. 962-966), and
Carnap (1966/1995, Part V) for further discussion. Since this was neither a fully worked out theory, nor a particular
point of contention with Quine, I will set aside languages with theoretical terms for the present discussion.
person is not married.” Analytic sentences, then, are those that are logically implied by the conjunction of all of the meaning postulates.

How might we set up the meaning postulates for terms whose meaning in natural language is not as obvious as “bachelor”? There are two cases. The meaning of a word might not be obvious (enough) to the constructor of the language, but obvious (enough) to an expert. Thus, in some cases, the A-postulates can be obtained by consulting an ordinary English dictionary. Consider the sentence, “If a bottle is tossed out of a window, the bottle is defenestrated.” Is this analytic or synthetic? The A-postulate, derived from the dictionary definition, says, “x is defenestrated if and only if x is tossed out of a window.” It is apparent at once that the sentence is A[analytically]-true. It is not necessary to toss a bottle through a window to see whether it does or does not become defenestrated. The truth of the sentence follows from the meaning relations of its descriptive words, as specified by the A-postulate. (1966/1995, p. 262)

In other cases, even the lexicographers will disagree, or hesitate. Then it cannot be the task of the logician to prescribe to those who construct systems what postulates they ought to take. They are free to choose their postulates, guided not by their beliefs concerning facts of the world but by their intentions with respect to the meanings, i.e., the ways of use of the descriptive constants. (1952, p. 68)

As with language construction in general, Carnap expresses tolerance towards making meaning postulates, in particular.

4.5. Quine on Why Ontology is Relevant to Analyticity

While dispute over analyticity found its way to print in the 1950s, the essentials of the debate were already evident a decade earlier. In the early 1940s, Carnap and Quine were both at Harvard, and part of a confluence of the then greatest analytic philosophers (including, most notably, Russell). During that time, Quine and Tarski began to question Carnap’s views on the
analytic synthetic-distinction, and subsequently inspired other philosophers like Goodman, White, and Hempel to join the fray. Readers only familiar with Quine’s call to clarify the distinction in “Two Dogmas of Empiricism”\textsuperscript{220} may fail to realize that the motivation for such a demand came from Quine’s earlier work on ontological commitment. In Quine (1939), Quine (1943), and Quine (1948),\textsuperscript{221} we find a defense of the following principle of ontology: “to be is to be the value of a variable.” Inspired by Russell’s theory of descriptions accounting for negative existential statements (“The so-and-so does not exist”) without quantifying over any “non-existent entities,” Quine argued to the further conclusion that all quantification is, in fact, over entities that exist (or, more precisely, that the speaker is committed to existing). Quine gave a clear summary of his own view in “On Carnap’s Views on Ontology”:

I think it is true that there is no commitment to entities through use of alleged names of them; other things being equal, we can always deny the allegation that the words in question are names [that refer to existing entities]. But still there is certainly commitment to entities through discourse; for we are quite capable of saying in so many words that there are black swans, that there is a mountain more than 9000 meters\textsuperscript{222} high, and that there are prime numbers above a hundred. Saying these things, we also say by implication that there are physical objects and abstract entities; for all the black swans are physical objects and all the prime numbers above a hundred are abstract entities. (Quine, 1951b, p. 67; emphasis in original)

On this account, there is no hint of a disagreement with Carnap. But, Quine correctly pointed out that the variables in Carnapian frameworks only range over the specific types of entities that they were introduced to capture. Recall that not only must a framework formulator give rules for well-formed sentences involving entities not yet contained in the framework (e.g., so that “there are five books on the table” is well-formed), Carnap required that the formulator give a general term under which the newly introduced entities fall (e.g., “five is a number”). It is because of the latter that Carnap thought that the ontological question over numbers can be answered, for “there are numbers” is analytically true in virtue of existential introduction on “five is a number.” Quine insisted that there is no reason to have “particular styles of bound variables” instead of simply

\footnote{Henceforth, this will be abbreviated as “Two Dogmas.”}
\footnote{See also Quine (1953/1961/1963b).
\footnote{Quine changed this to “8800 meters” in the Quine (1966) compilation containing “On Carnap’s Views on Ontology.” This must have been because he came to learn that Mount Everest, by all accounts the highest mountain in the world, is approximately 8850 meters high. As far as I can tell, the change is insignificant, since even if one is saying something false, one still (though now mistakenly) retains the ontological commitment.}}
allowing generalized variables in a “universal language,” ranging over everything to which the speaker is committed. Though this difference might seem trivial,

the basic point of contention has just emerged: the distinction between analytic and synthetic itself…[I]f there is no proper distinction between analytic and synthetic, then no basis at all remains for the contrast which Carnap urges between ontological statements and empirical statements of existence. Ontological questions then end up on a par with questions of natural science. (Quine, 1951b, p. 71)

That is, Carnap is only justified in giving the answers that he does to the question “what is there?” if something that he has presupposed is correct—namely, that there even is a distinction to be made between analytic and synthetic sentences. Quine, and some of the others at Harvard during his tenure, were the first to become known for questioning the presupposition.

4.6. Quine’s Call for Explanation

Given that Quine was a naturalistic philosopher, in the sense that in his philosophical system he exclusively tolerated scientifically respectable entities, he only cared for the exact

224 Price (2009) claims that Carnap never sufficiently addressed Quine’s objection, but he could have responded to it using the Rylean notion of a category mistake (Ryle, 1949). Even though it is legitimate to quantify over everything and take “exists” in a very general sense, according to Price, it is not very useful to do so given the fact that the function of using “exist” varies considerably given, e.g., the following uses: “numbers exist,” “moral imperatives exist,” and “cars exist.” While it is undoubtedly a difficult task to specify exactly what makes for difference in function, “Quine seems poorly placed to reject the suggestion that there might be important functional differences of this kind in language. The issue is one for science. It is the anthropologist, or perhaps the biologist, who asks, ‘What does this linguistic construction do for these people?’ Quine can hardly argue that the results of such investigations may be known a priori…Nothing in Quine’s criticism of Carnap’s and Ryle’s pluralism seems to count against the existence of such foundations, and so the verdict on the Carnap-Ryle view must await excavations—first-order scientific enquiries into the underlying functions of language in human life. The importance of this kind of investigation is much less appreciated in contemporary philosophy than it was in the 1950s, I think; and Quine, or at least his interpreters, deserve some of the blame” (Price, 2009, pp. 334, 335). Thus, Price gives a novel interpretation of this portion of the Carnap-Quine debate, utilizing a not-so-novel concept: category mistakes. Price maintains that since there might be functional differences in language, Carnap had an edge in this context, but Carnap did not really know why.
225 Though one ought not give much credit to rumors (especially when explicitly discounted), the fact that Richman mentioned the following in a reputable journal makes it intriguing: “if Maxwell, or anyone else, knows of a criterion for determining the existence of synonymy or of analyticity in ordinary language which eliminates all appeal to intuition, I should be pleased to hear of it. I discount, however, the rumor that the Harvard philosophy department has offered a large reward for this information” (1961, p. 34). (Grover Maxwell, who gave a defense of a Carnapian view on analyticity in Maxwell [1960], is the focus of Richman’s article.) If nothing else, it tells us of the extent to which Harvard philosophers of the time had become known for rejecting the analytic-synthetic distinction.
226 As Hylton (2010) notes, “We can, for the most part, treat him [Quine] as holding a single philosophical view [over the course of his career]; what he calls naturalism is fundamental to that view. This is not to say that his
ontological commitments over which the variables in the language of science range. For example, since classical mathematics is essential to science, the variables of scientific language range over numbers (or at least set-theoretic classes, and their classes, etc., by which numbers can be analyzed), and these are prima facie “Platonic” abstract entities—i.e., they are neither spatial nor temporal, but do exist in addition to spatial and temporal things. It was in contrasting the alleged analytic-synthetic distinction with this kind of commitment that Quine first became dissatisfied with analyticity:

[L]et us accept, provisionally, whatever rudimentary Platonism may be embodied in our regular logic and classical mathematics, and so proceed with our semantics…[But analyticity] is different from the provisional acceptance of Platonism suggested in the preceding paragraph; for in accepting such Platonism we go no farther than had been done already in our regular logic and mathematics, but in accepting the notion of “analytic” we take on an unexplained notion to which we were not committed hitherto. It remains to explain the notion. (Quine, 1990 [orig. 1943], pp. 295, 296)

Quine’s main contention here seems to have been this: there is a certain ontology that we are committed to, simply in virtue of current logic, mathematics, and scientific work (though, presumably, this ontological commitment might change as these fields progress), but in order to justify introducing a term of art, like “analytic,” we have to explain why it is needed. In short, while Quine grants that logic and mathematics are needed for science, he is not willing to grant that analyticity is needed for science (or for the logic and mathematics on which science depends). This is especially clear in Quine’s “Carnap and Logical Truth”:

[T]he obviousness or potential obviousness of elementary logic can be seen to present an insuperable obstacle to our assigning any experimental meaning to the linguistic doctrine of elementary logical truth…[Consider] the logical truth “Everything is self-identical,” or “((\forall x)(x = x)).” We can say that it depends for its truth on traits of the language (specifically on the usage of “=”), and not on traits of its subject matter; but we can also say, alternatively, that it depends on an obvious trait, viz. self-identity, of its subject matter, viz. everything. The tendency of our present reflections is that there is no difference. I have been using the vaguely psychological word “obvious” non-technically, assigning it no explanatory value. My suggestion is merely that the linguistic doctrine of naturalism was self-conscious and explicit from the start. It was, rather, something that he became clearer about over the years…The distinctiveness of Quine’s naturalism begins to emerge if we ask what justifies this naturalistic claim: what reason do we have to believe that the methods and techniques of science are the best way to find out about the world? Quine would insist that this claim too must be based on natural science. (If this is circular, he simply accepts the circularity.) This is the revolutionary step, naturalism self-applied. There is no foundation for Quine’s naturalism: it [is] not based on anything else.”

\[\text{This claim of Quine’s is questioned in Field (1980).}\]
elementary logical truth likewise leaves explanation unbegun. (1954/1963, pp. 389, 390; symbol for universal quantification added)\(^\text{228}\)

Quine made a Moorean-like point against anyone trying to invoke the analytic-synthetic distinction as essential to explaining either how logical truths are true or how we know that they are true—(1) as far as obvious truths go, logical truths *seem to be* as obvious as anything is, without any further elaboration, so (2) any attempt to elaborate upon them will be either less or equally obvious than they are themselves. Though “obviousness” does not serve as an explanation for their truth, it suggests that if anything does not need an explanation, it is logical truths. Quine has merely *suggested*, however, that logical truths are as obvious as obviousness gets, and therefore left open the possibility that something else might be more obvious (or even less in need of explanation). Thus, the onus is put on the advocate of any term of art to show how the term strengthens the language to which it is being added, in the sense that the language has additional explanatory resources because of it.

On the behalf of the advocate of the analytic-synthetic distinction, in “Two Dogmas” (1951a), Quine examined potential justifications of how analyticity explains certain truths (or how we know them) in more obvious terms than the truths themselves. Recall the following fact: Carnap characterized analytic sentences as those that are logically implied by the conjunction of all of the stipulated meaning postulates of an artificial language (framework). Accordingly, analyticity is relative to a given artificial language and, thus, a sentence that is analytically true in the given language need not be analytically true (or even true) in another language. Since “a statement S is said to be analytic for a language L,” Quine said, “the problem is to make sense of this relation generally, i.e., for variable ‘S’ and ‘L’” (1951a, pp. 31-32; emphasis altered). The reason why this is “the problem” is because when people use a term, the onus is on them to use it consistently, for otherwise the uses are not tokens of a type of use—they are of different types, but misleadingly appear to be of the same type. So, suppose that we have two frameworks, \(F_1\) and \(F_2\), and that they have the following meaning postulates:

Meaning Postulate in \(F_1\): \((\forall x)Ixx\)

Meaning Postulate in \(F_2\): \((\forall x)\neg Ixx\)

According to Carnap, it is analytically true in \(F_1\) that “some element in the universe of discourse, named ‘b,’ has the relation ‘I’ to itself” and it is analytically true in \(F_2\) that “some element in the

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\(^{228}\) See also Quine (1986, p. 206).
universe of discourse, named ‘b,’ lacks the relation ‘I’ to itself.” What do these two have in common that merits calling each “analytically true”? Given only what has been said so far, the sole reason that each of those statements is taken to be analytically true is because they are instantiations of sentences put under the common heading of “Meaning Postulates” by the formulator of the framework. There is no way to tell what properties they share besides the uninformative “instantiations of sentences under the same heading.” The fact that the heading is “Meaning Postulates” is not merely irrelevant, with respect to what they have in common, it is misleading—it “might better be written untendentiously as ‘K’ so as not to seem to throw light on the interesting word ‘analytic’” (Quine, 1951a, p. 32). Of course, Carnap would have responded as follows: the meaning postulates of \( F_1 \) and \( F_2 \) would not have been arbitrarily put under any heading, since the formulator of the framework chose them as he or she did in order to reflect some analytic truths from the natural language (or at least to capture what could arguably be analytic truths in natural language, getting rid of vagueness, ambiguity, etc.). For example, if \( F_1 \) is a framework of numbers, the formulator could have been trying to capture the reflexivity of identity with the relation “I.” Similarly, if \( F_2 \) is an empirical framework of temperature measurements, “I” could have been chosen to reflect the non-reflexive relation “…is at a greater temperature than….” Quine, anticipating this response, then pointed out that there is a presupposition that we can tell which are the analytic sentences in natural language, in order to justify co-opting the natural language terminology into our (formal) frameworks.

By what criteria, then, could we possibly explain that a sentence in natural language is true solely in virtue of the meanings of its constituent parts? Quine gave short shrift to a long standing criterion associated with analyticity:

[W]e hear analytic statements defined as statements whose denials are self-contradictory. But this definition has small explanatory value; for the notion of self-contradictoriness, in the quite broad sense needed for this definition of analyticity, stands in exactly the same need of clarification as does the notion of analyticity itself. The two notions are the two sides of a single dubious coin. (1951a, p. 20)

In support of the claim that self-contradictoriness needs to be clarified, Quine approvingly cites White (1950/1970). There, White gives an argument which can be reconstructed as follows: (1) whatever analytic statements are, they are statements; (2) the denial of any statement would

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229 In “Two Dogmas,” Quine’s objection does not mention “meaning postulates,” but the related term “semantical rules,” since Carnap did not use the former until after Quine’s paper was published.
be in the form “not A”; thus (3) the denial of an analytic statement would be in the form “not A”; but (4) a self-contradictory statement is of the form “A and not A”; so (5) an analytic statement cannot be one whose denial is self-contradictory.\(^{230}\) White attempts to investigate what “self-contradictoriness” might be here, if not taken literally. He offers the following psychological account: “All it has to do is to produce a certain feeling of horror or queerness on the part of people who use the language. They behave as if they had seen someone eat peas with a knife” (1950/1970, p. 85). Obviously this is in need of significant clarification: whose feelings count? is it not the case that deeply held truths of any sort will tend to cause horror when denied? is it not the case that “feelings of horror” come in degrees rather than an all-or-nothing classification and, thus, that there could not be a distinct border between analytic and synthetic truths? While none of these questions decisively undermines self-contradictoriness as a criterion for analyticity, their very presence undermines the patent obviousness of the criterion which, again, is that for which Quine was looking.

Next, Quine (interpreting Kant) provisionally defined analytic truths as statements “true by virtue of meanings and independently of fact” (1951a, p. 21), which spring-boarded him into a discussion of meanings. So that the reader does not hold a naïve view of meaning, Quine rehearsed the famous arguments of Frege and Russell, demonstrating that at least in some cases, meanings cannot be identified with references or extensions.\(^{231}\) Frege’s most celebrated example,\(^{232}\) in short, is this: though “evening star” and “morning star” refer to the same object, they cannot have the same meanings, since if that were the case, “the evening star is the morning star” would be true simply in virtue of meanings (i.e., analytic) and everyone who knew the meanings of the terms could know the truth of the statement without making observations; but astronomers did know the meanings of the terms and still required observations to know the truth of the statement. Quine gives a parallel case for general terms, whose putative meanings are extensions: “‘creature with a heart’ and ‘creature with a kidney,’ e.g., are perhaps alike in

\(^{230}\) This argument is questionable for the following reason: if a statement is analytic, it is true in virtue of the meanings of its constituent parts. The fact that there will be multiple meanings in analytic statements shows that labeling the statement “A” masks its semantic structure. For example, in the case where “A” abbreviates “B \(\lor\) \(-B\)” (which is composed of multiple terms, each with meanings), “\(-A\)” is an abbreviation for “\(~(B \lor \neg B)\)” which—by the demonstrably truth-preserving rules of DeMorgan, Double Negation, and Commutation—is equivalent to “\(B \& \neg B\).”

\(^{231}\) Recall from earlier discussions that the extension of “X” is the set of things which qualify as, instantiate, satisfy, or of which “X” can be truly predicated.

\(^{232}\) From Frege (1892/1997). See Ch. 3 above for a discussion of Frege’s work.
extension but unlike in meaning” (1951a, pp. 21-22). Moreover, the mistaken views that meanings are references or extensions may be the reason why people have thought meanings were ideas (mental or “Platonic”), but “there seems little hope of erecting a fruitful science about them” (Quine, 1951, p. 22)—i.e., about meanings as ideas.

The natural course is to explain meanings by invoking definitions, for it is a common view that a dictionary entry for “A” is simply an accurate proclamation that “A” means the same as “B”—i.e., “A” and “B” are synonymous—where the meaning of “B” is already known. Quine admitted that the shift to sameness of meanings was an improvement, since it then did not matter what meanings were—“meanings themselves, as obscure intermediary entities, may well be abandoned” (1951a, p. 23); and recall that Carnap held that meaning postulates could, at least sometimes, be “derived from the dictionary definition.” If a single dictionary appeared like manna from heaven, specifying the uniquely correct synonyms for all words, perhaps meanings could be grounded in definitions. But there is no such dictionary that “defines each and every…word in one standard way, except for an official set of basic undefined terms” (Quine, 1946/2008, p. 32). In fact we have many dictionaries, all of which are human constructs and which “differ enough among themselves so that many statements which would come out analytic according to the definitions in one dictionary might not according to another” (Ibid., pp. 32-33).

But might it not be the case that one lexicographer is correct, and the others are wrong, so that there is a single set of analytic statements? For a lexicographer to be correct in stating that “A” is synonymous with “B,” he or she either has had to make the two mean the same thing, or discover that the two mean the same thing. Something that is often overlooked is that Quine did accept the legitimacy of the former kinds of cases. Since stipulative definitions are

created expressly for the purpose of…[setting up synonyms, h]ere we have a really transparent case of synonymy created by definition; would that all species of synonymy were as intelligible. For the rest, definition rests on synonymy rather than explaining it. (Quine, 1951a, p. 26)

Quine’s qualms, then, are only supposed to apply to “the rest” of the cases of synonymy—i.e., those that are not the result of stipulative definitions. For those, it is not the case that “A” and “B” are synonymous because “B” is the definiens of “A,” but rather “B” is the definiens of “A” (and the lexicographer can discover that fact) because “A” and “B” are synonymous. Clearly then, a non-stipulative lexicographic entry is a report of some fact that must be justifiable independently of the reported definition.
Quine’s last attempt to clarify meanings was by trying to specify when two linguistic forms have the same meaning in terms of the “natural” suggestion that Quine calls, following Leibniz, “interchangelability *salva veritate*.” According to this criterion, “X” is synonymous with “Y” (each possibly being composed of multiple terms) because no sentences that contain one will go from true to false, or false to true, if “X” and “Y” are exchanged. Quine notes that failure of interchangelability *salva veritate* in certain contexts should not be taken to undercut any potential form of synonymy. In particular, if words are mentioned rather than used, there are conspicuous cases where the criterion fails, such as “‘Bachelor’ has less than ten letters” (True) and “‘Unmarried adult male’ has less than ten letters” (False). Quine is willing to overlook such cases for the sake of argument.\(^{233}\) The serious problem for the interchangelability *salva veritate* criterion is presented as a dilemma: either the languages to which the interchanges are applied are purely extensional, or are intensional.\(^{234}\) The first horn of the dilemma has already been shown to be unacceptable: when dealing with extensional languages, interchangeability *salva veritate* does not guarantee (cognitive)\(^{235}\) synonymy for the very reasons that were given earlier to undermine the thesis that meanings are references or extensions. Thus, at this point, Quine’s main argument is to the effect that invoking interchangeability *salva veritate* as a criterion for synonymy in intensional languages is illicit.

At first blush, it would seem that in dealing with intensional languages, the interchangeability criterion for synonymy is guaranteed to hold by invoking strong modal terms, like “necessarily.” Given the linguistic doctrine of logical truth as analytic truth, “all bachelors are bachelors” is true in virtue of the meanings of the logical terms “all” and “are,” and could not possibly be false, since no empirical evidence could ever contradict it. Thus, “necessarily all bachelors are bachelors” is true, and now when we substitute the synonym “unmarried adult males” for “bachelors,” the resulting sentence retains the truth-value “true”: “necessarily all bachelors are unmarried adult males.” But the problem is that the very explanation for “necessarily all bachelors are bachelors” being true invoked analyticity as an explanans (whatever does the explaining). Since we are looking for an explanation of analyticity, we cannot

\(^{233}\) Quine suggests that even then, the discussion may illicitly rely on an unexplained word—namely “word.” This worry seems unwarranted, however, since unlike “analytic,” “word” is not a term of art but is clear enough, in nearly all circumstances, for both scientists and non-scientists to use without confusion.

\(^{234}\) See fn. 204.

\(^{235}\) Cognitive synonymy is the form of synonymy that is weaker than identical connotations—“indeed no two expressions are synonymous in such a sense” (Quine, 1951a, p. 28)—but strong enough to account for analyticity (while not presupposing analyticity).
include a notion in *that* explanans which can only be explained by analyticity itself, for though the “argument is not flatly circular,...[it is] something like it. It has the form, figuratively speaking, of a closed curve in space” (Quine, 1951a, p. 29). Though we may have shown that the notions of analyticity, synonymy, and necessity are *consistent* with each other, we have not shown why any of them are of any relevance to epistemology, any more than the following three (made up) terms: “penyical,” “naquinal,” “ugesol,” which are related in the following ways “penyical gives a criterion for determining cases of naquinal,” “naquinal gives a criterion for determining cases of ugesol,” and “ugesol gives a criterion for determining cases of penyical.”

4.7. Quine’s Call for Explication

In “Two Dogmas,” Quine took himself to show that the analytic-synthetic distinction is “ill founded”; “not clear”; “in need of clarification”; “lack[s] a proper characterization”; has an “air of hocus-pocus”; is “unexplained”; is “tugging at our bootstraps”; “is an unempirical dogma of empiricists, a metaphysical article of faith”; and, finally, “is a distinction which I reject.”

Since he argued that there is a family of terms that all stand or fall together, one of which is analyticity, the more general conclusion to be drawn from this discussion in “Two Dogmas” is that *all* intensional terminology likewise has these flaws, and ought to be rejected. One might try to dig in one’s heels here and say that “analytic” (or one of the other intensional terms, such as “meaning,” “synonymy,” or “necessarily”) are primitive, but “a model which takes analyticity merely as an irreducible character is unlikely to throw light on the problem of *explicating* analyticity” (Quine, 1951a, pp. 34; emphasis added, typo corrected). What Quine had been asking for all along was an “explication” of “analytic,” and he took his arguments to show that one was not forthcoming. Carnap would say of this appraisal, “I do not share Quine’s skepticism; he is doubtful whether an explication of analyticity, especially one in semantics, is possible, and even whether there is a sufficiently clear explicandum [i.e., what gets explicated], especially with respect to natural languages” (1952, p. 66). To understand the issue at hand, then, the nature of explication requires clarification.

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236 Citations omitted.
Since explication is a Carnapian version of a Fregean idea, I will briefly compare and contrast those philosophers’ views. Consider Carnap’s analogy:

A natural language is like a crude, primitive pocketknife, very useful for a hundred different purposes. But for certain scientific purposes, special tools are more efficient, e.g., chisels, cutting machines, and finally the microtome. If we find that the pocket knife is too crude for a given purpose and creates defective products, we shall try to discover the cause of the failure, and then either use the knife more skillfully, or replace it for this special purpose by a more suitable tool, or invent a new one. (1963/1997b, pp. 938-939)

Whether we prefer to illustrate the idea with pocketknives and microtomes with Carnap or eyes and microscopes with Frege, the point is the same: natural languages are useful for certain purposes, and deficient for many logical, mathematical, and scientific ones. The main difference between Carnap and Frege here is over how to build the micro-tools—or rather, how many optimal micro-tools there can be. Frege put forth his formal language (first in the Begriffsschrift, and then in the Grundgesetze) as the language which provides the basis for all rigorous thought, and recall that all terms in the optimal language ought to be entirely without vagueness—“a language that is intended for scientific employment must not leave anything to guesswork” (Frege, c. 1914/1979, p. 213). Carnap’s view diverged from Frege’s here, on both accounts. According to Carnap, there is no antecedent reason to think that a single language would be the best tool for all rigorous purposes—we must be tolerant of all languages, so long as they can prove their worth in specific contexts. If an intuitionistic framework has more predictive power at the quantum level, then the law of excluded middle (which is a part of Frege’s Grundgesetze language, but not intuitionistic logics) should not be built into the framework to be used in dealing with quantum phenomena. Regardless of whether or not there is a single best formal

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237 Compare Carnap’s passage with that from Frege, quoted on p. 60, above: “I believe I can make the relationship of my Begriffsschrift [i.e., Frege’s ideal language] to ordinary language clearest if I compare it to that of the microscope to the eye. The latter, due to the range of its applicability, due to the flexibility with which it is able to adapt to the most diverse circumstances, has a great superiority over the microscope. Considered as an optical instrument, it admittedly reveals many imperfections, which usually remain unnoticed only because of its intimate connection with mental life. But as soon as scientific purposes place great demands on sharpness of resolution, the eye turns out to be inadequate. The microscope, on the other hand, is perfectly suited for just such purposes, but precisely because of this it is useless for others. Likewise, this Begriffsschrift is an aid devised for particular scientific purposes.”

238 See Sec. 3.4, above.
linguistic framework for our “scientific” purposes, according to Carnap, a slight overhaul of a natural language\textsuperscript{239} can also be advantageous:

Suppose the statement “it will probably be very hot tomorrow at noon” is made for the purpose of communicating a future state to be expected, perhaps with regard to practical consequences. The use of the…[more precise notion of] “temperature” instead of “very hot” in the above statement makes it possible to fulfill the same purpose in a more efficient way: “the temperature tomorrow at noon will probably be about so and so much.” (Carnap, 1963/1997b, p. 936)

Note that what Carnap advised here was not the addition of a meaning postulate to English, but the replacement of a vague term (“very hot”) with a more precise term (“temperature…[of] about so and so much”). In this exchange, Carnap has not removed all of the vagueness from the original term, since not only will “temperature” be vague to some extent, but the “about” qualifier shows that an exact concept is not even intended. Thus, again departing from Frege, Carnap held that we may gain usefulness in a language by merely reducing vagueness, rather than removing it:

The task of making more exact a vague or not quite exact concept used in everyday life or in an earlier stage of scientific or logical development, or rather of replacing it by a newly constructed, more exact concept, belongs among the most important tasks of logical analysis and logical construction. We call this the task of explicating, or of giving an explication for, the earlier concept; this earlier concept, or sometimes the term used for it, is called the explicandum; and the new concept, or its term, is called an explicatum of the old one. (Carnap, 1947/1948, pp. 7-8)

So, although both Frege and Carnap advocated language engineering and explications of sorts, Carnap held a more liberal attitude towards what acceptable systematic constructions and term-by-term amendments might be useful.

Carnap’s liberal attitude about explications did not prevent him from maintaining that there must be certain constraints on satisfactorily supplanting a vague term. Carnap gives four requirements (which I here discuss in the reverse order of his exposition). First, all other things being equal, the explicatum should be as simple as possible, since ease of use facilitates application. It is worth noting that the remaining three desiderata are “the more important requirements” (1950, p. 7), since they can be achieved even with needlessly complicated explicata. For the explication to be epistemically useful, the explicatum needs to be “fruitful,”

\textsuperscript{239} Indeed, the language that scientists actually use (in contrast to the rigorous language that they might be better off using) “is today still mainly a natural language (except for its mathematical part), with only a few explicitly made conventions for some special words or symbols” (Carnap, 1955, p. 40).
in the sense that it has widespread ramifications by contributing to many empirical laws or logical theorems. The third requirement is that the explicatum should be “exact,” or as I would prefer, “as strong as possible.” As was mentioned before, explicating “hot” in terms of “temperature of so and so” is a vast improvement on precision, and obviously the concept of temperature is fruitful in the sense just mentioned. But imagine a time before there were reliable ways to report temperature. In such a state of affairs, the comparative term “hotter than” would often have been more fruitful than “hot” alone, but not as fruitful as the yet unknown “temperature of so and so.” This rule of explication imploring us to make the explicatum as strong as possible, then, just amounts to the claims that, in many circumstances, (1) some improvement in precision is better than none—here, utilizing the comparative phrase “hotter than” is better than remaining satisfied with the classificatory term “hot”—and (2) further explications should take place when greater precision becomes possible—here, e.g., when someone develops a reliable thermometer allowing for the use of the quantitative phrase “temperature of so and so.”

The requirement on explication that is most germane to the analyticity debate is the remaining “similarity to the explicandum” requirement:

The explicatum is to be similar to the explicandum in such a way that, in most cases in which the explicandum has so far been used, the explicatum can be used; however, close similarity is not required, and considerable differences are permitted. (1950, p. 7)

Quine’s understanding of this requirement serves as the crux of his famous call for clarity, discussed above. For A to be similar to B, B needs to have features to which A’s features can be similar. With respect to an explication, an explicatum cannot be similar to a hopelessly unclear explicandum. Thus, explications presuppose sufficiently clear explicanda. With that claim as premise (7) below, it is possible to reconstruct Quine’s argument as follows:

(1) Any philosopher who uses a term with a prior history of usage needs to (be able to) justify the use of that term, since it is illicit to co-opt a term and use it without regard for prior usage. [Assumption] 240

(2) There are two ways to justify the use of a term with prior history of usage:
   (A) demonstrate that the current usage is exactly the same as prior usage and

240 This is an assumption, but the motivation for it is obvious when one considers the alternative. For example, imagine someone not only deciding to henceforth use the word “dog” to refer to rain drops, but also deciding not to warn you about the change.
(B) demonstrate that the current usage is based on an explication of the term’s prior (vague) usage. [Assumption]

(3) “Analytic” has been ostensibly used in the following ways: (i) the denial of a contradiction, (ii) truth by definition, and (iii) logical truths (in the wide sense of including those based on synonymy). [Justified by a review of the literature.]

(4) Carnap uses “analytic” to describe logical consequences of meaning postulates. [Justified by a review of Carnap’s work.]

(5) Carnap is not using “analytic” in exactly the same way as any prior usage. [(3), (4)]

(6) Carnap needs to demonstrate that his usage of “analytic” is based on an explication of the prior (vague) usage of “analytic.” [(1), (2), (5)]

(7) Explications presuppose sufficiently clear explicanda. [A consequence of Carnap’s “similarity to the explicandum” requirement, as explained above.]

(8) Of the traditionally professed explicanda—(3i), (3ii), or (3iii)—none are sufficiently clear. [For the following reasons from “Two Dogmas,” as summarized in “Carnap and Logical Truth”: “Wherever there has been a semblance of a general criterion [as to what it is to be an analytic sentence], to my knowledge, there has been either some drastic failure such as tended to admit all or no sentences as analytic, or there has been a circularity…, or there has been a dependence on terms like ‘meaning,’ ‘possible,’ ‘conceivable,’ and the like, which are at least as mysterious (and in the same way) as what we want to define” (Quine, 1954/1963, pp. 403-404).]

(9) Therefore, Carnap cannot justify using “analytic.” [(6), (7), (8)]

When put in this form, it becomes clear that the controversial premise is (8). Someone who thinks that any of the possible explicanda are sufficiently clear has two ways to respond to Quine: either show why Quine’s demands for sufficient clarity are unacceptable, or show that “analytic” in fact qualifies as sufficiently clear on Quine’s terms for sufficient clarity. Shortly after Quine published “Two Dogmas,” Martin (1952) and Grice and Strawson (1956) each took the first line of defense, and Carnap took the second (and indicated approval for those other philosophers’ arguments241).

Martin pointed out (and Carnap echoed the point242) that there seems to be no good reason for Quine to demand of analyticity an explanation of “X is analytic in L” for a variable L, but not make a similar demand on truth. First, Martin maintained that while Tarski gave an account of truth, “[n]o one has put forward a definition of ‘true in L’ where ‘L’ ranges over the natural language” (Martin, 1952, p. 43). Second, with regard to Quine’s request that Carnap

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241 See, e.g., Carnap (1952, p. 72, fn. 3) and Carnap (1963/1997b, p. 918, fn. 22).

should use “K” rather than “analytic in L,” since using the latter misleadingly suggests that Carnap is shedding light on analyticity, Martin said,

this is to miss the point that Carnap’s definition aims to explicate the older concept of logical or necessary truth. Similar remarks apply equally well to the semantical truth concept. We could call the precise new term “true,” as Tarski suggests somewhere, rather than “true,” so as not to seem to throw light on the age-old, hoary concept of truth. But this would be to miss the point of the explicative power of the new definition. (1952, p. 46)

Quine responded to Martin by making the case for relevant disanalogies between truth and analyticity. First, though Tarski’s disquotational principle does not strictly apply to natural languages, it can be applied “with a high enough degree of intelligibility so that we are not likely to be averse to using the [true-in-L] idiom” (1953/1961/1963a, p. 138). Second, “[a]ttribution of truth in particular to ‘Snow is white,’ for example, is every bit as clear to us as the attribution of whiteness to snow” (Ibid.; emphasis added), or as Quine would later write, “[e]vidently one who puzzles over the adjective ‘true’ should puzzle rather of the sentences to which he ascribes it. ‘True’ is transparent” (1990/1992, p. 82). Since, presumably someone who puzzles over “analytic” need not puzzle over “all bachelors are men,” truth is manifestly clearer than analyticity.243

Grice and Strawson were nonetheless bewildered by Quine’s requirements for clarity in “Two Dogmas,” so they undertook the task of elucidating what Quine could have possibly meant, and found each possibility wanting. For one thing, Grice and Strawson wondered “what could Quine possibly count as an explanation for the legitimate use of any expression?” Given his remarks,

it would seem that Quine requires of a satisfactory explanation of an expression that it should take the form of a pretty strict definition but should not make use of any member of a group of interdefinable terms to which the expression belongs. We may well begin to feel that a satisfactory explanation is hard to come by. (Grice & Strawson, 1956, p. 148)

Recall that Quine not only rejected “analytic,” but an entire family of intensional terms that all seemed interdefinable. How does this differ from, say, a family of moral terms such as “‘morally

243 Another way to put Quine’s idea here is that truth, since it is antecedently very understandable, is suitable for use in clarifying other notions. But when it comes to what Quine saw as antecedently unclear notions like analyticity, thought, and belief, Quine held that they “are very worthy objects of philosophical and scientific clarification and analysis, and that they are in equal measure very ill suited for use as instruments of philosophical and scientific clarification and analysis. If some one accepts these notions outright for such use, I am at a loss to imagine what he can have deemed more in need of clarification and analysis than the things he has thus accepted” (1981, p. 184).
wrong, ‘blameworthy,’ ‘breach of moral rules,’ etc.” (Ibid.)? More generally, if every explainable term needed to be defined by some explainable, but non-interdefinable term, would this not generate an infinite regress of definitions? Therefore,

It would seem fairly clearly unreasonable to insist in general that the availability of a satisfactory explanation in the sense sketched above is a necessary condition of an expression’s making sense. It is perhaps dubious whether any such explanations can ever be given. (Ibid.; emphasis in original)

Worse yet, it seems “absurd, even senseless, to say that there is no such distinction” between what terms express when there is not only considerable present agreement over the use of those terms, but “agreement extends not only to cases which they [users of the term] have been taught so to characterize, but to new cases” (1956, p. 143). Though “absurd” and “senseless” might be too strong, it would be remarkable for people to use terms in novel cases consistently if they were not tracking some legitimate distinction. Before getting into the details of Carnap’s (1955) response to Quine, it is worth mentioning here that Carnap there takes empirical testing of novel cases as an essential component to determining intensional explicanda (including analyticity).

No doubt in part to placate Quine, Carnap endeavored to show “that the analysis of intension for a natural language is a scientific procedure, methodologically just as sound as the analysis of extension” (Carnap, 1955, p. 36). Both Carnap and Quine held that intersubjectivity was a requirement on legitimate scientific procedure, for, as Quine would put it in one of his last interviews,

I can admit as evidence or as criterion [sic.] only what can be intersubjectively agreed upon by observation….When it comes to making sense of our hypotheses and making sense even of our problems as objective problems as much as of our solutions, we can only go by, depend on, terms where in principle it can be intersubjectively agreed upon whether they apply or not. (1998/2008, p. 93)

Carnap knew that Quine held linguistic behavior to be the intersubjectively available data for studying natural language, even though this fact is only alluded to in passing in “Two Dogmas”—“The notion of synonymy presupposed here has still to be clarified, presumably in terms relating to linguistic behavior” (Quine, 1951a, p. 24). Quine would later recollect that his emphasis on behavior was a key issue in his disagreements with Carnap:

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244 Though Grice and Strawson do not acknowledge it, this point had been made earlier by Mates (1951, pp. 529ff).
245 See also, Carnap (1950, pp. 4-5).
246 Thus, Carnap’s knowledge of Quine’s requirement must have come, primarily, from conversation and letters. See, e.g., Quine (1990 [Orig. 1943], p. 298) and Carnap (1990 [1943], p. 309).
I consider myself certainly an empiricist. The points on which I’ve departed from predecessors, particularly Carnap, have been a consequence of my insisting on a more completely empirical approach than Carnap himself. My criticism of the use he made of the distinction between analytic and synthetic judgments rested on my not seeing an adequate empirical criterion in terms of the behavior of speakers of the language to distinguish the two kinds of statements. So it seemed to me an unempirical dogma. (Quine, 1994/2008a, p. 69)

Quine was a self-proclaimed behaviorist, but he always made clear that his behaviorism was neither “logical behaviorism”—the view that mental terms mean certain sets of (potential or dispositional) behaviors—nor “psychological behaviorism”—the view that all behavior can be explained (or predicted) on the basis of psychological laws stating how individuals (are likely to) act given their past experiences and present environment. Rather, Quine’s behaviorism was methodological, and he would often illustrate his view on the basis of an analogy with the diagnosing of a disease:

I believe that behaviorism isn’t ultimately explanatory, though it is indispensable methodologically. What is important to consider is the neurological mechanism for some introspectively identified mental state, or mental process. You need to specify that process in objectively verifiable and recognizable terms, so you need behavioral criteria to set the problem for which you are going to look to neurology for the solution. It is the same in medicine. In the case of an infectious disease you look for the micro-organism but you don’t identify the disease by that organism, you identify the disease by the symptoms. Verbal behavior is the symptom: it comprises the symptoms of mental states, just as symptoms of a medical sort provide the criteria for finding the micro-organism that is the cause. (1994/2008b, p. 64)

More succinctly, “[d]ispositions to observable behavior are all there is for semantics to be right or wrong about” (Quine, 1990/1992, p. 101). It is understandable, then, why Carnap was eager to show that correct applications of intensional terminology can be argued for on the basis of linguistic behavior.

Quine was always willing to grant that a linguist could reasonably identify behavior of assent or dissent with regard to some presented stimulus. Moreover, on that very basis, the extensions of terms could be reliably tested and determined. For example, to test whether someone is willing to classify a certain vertically oriented object as a “tree,” the linguist would

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247 And, incidentally, was close friends with fellow Harvard professor, B. F. Skinner.
248 These labels are from Graham (2000/2009). Logical behaviorism is sometimes also called “analytical behaviorism,” and psychological behaviorism is sometimes also called “radical behaviorism” (but that term is occasionally used in other senses, as well).
probably prompt the occasion of assent or dissent with the simple question, “(is this a) tree?”

However, Quine obviously did not think that observation of linguistic behavior could give us intensions of terms (even granting reliable signs for assent and dissent). Carnap argues against this disparity between the testability of extensions and intensions, by giving the following thought experiment:

Suppose, for example, that one linguist, after an investigation of Karl’s speaking behavior, writes into his dictionary the following:

(1) Pferd, horse,

while another linguist writes:

(2) Pferd, horse or unicorn.

Since there are no unicorns, the two intensions ascribed to the word “Pferd” by the two linguists, although different, have the same extension. If the extensionalist [Quinean] thesis were right, there would be no way for empirically deciding between (1) and (2). But what else is there to investigate for the linguist beyond Karl’s responses concerning the application of the predicate to all the cases that can be found? The answer is, he must take into account not only the actual cases, but also possible cases. (1955, p. 38)

Thus, it is possible to reliably differentiate between (1) and (2) based on linguistic behavior—simply ask Karl: “if there were a horse with a horn on its forehead, would you call it a ‘Pferd’”? Presenting a linguistic user with counterfactual cases is also needed to determine the intension of a term that does refer. Carnap discusses the case of determining the intension of “Mensch”: the linguist “has to test Karl’s responses to descriptions of strange kinds of animals, say intermediate between man and dog, man and lion, man and hawk, etc.” (Ibid., p. 39). Finally, we ought to be able to show Quineans that analyticity is clear enough by doing some experimental philosophy—say, taking surveys of philosophers brought up in the analytic tradition, and asking many questions (“comprehending all possible cases,” as Carnap says) to determine the intensions of “bachelor” and “unmarried adult male,” but also of relatively novel terms and phrases that have not been given much attention by philosophers yet—e.g., “webpage” and “part of the internet.” Then, we can tell if a sentence (e.g., “all webpages are parts of the internet”) is analytic.

Lest one worry about cases of radical translation, even then the linguist can make hypotheses based on signs of assent and dissent, and those hypotheses can be of completely legitimate translations (e.g., that their “gavatree” has the same extension as the linguist’s “tree”). According to Quine’s famous indeterminacy of translation hypothesis, however, there will be equally legitimate (based on all available data), but mutually incompatible translations of those same terms.

Though this case is clear, of course, there will be cases where a person will not know how to respond to a counterfactual question. This simply shows that intensions, like extensions, can be vague.
internet”) is analytic by the following (empirically respectable) criterion: “a sentence is analytic if it is true by virtue of the intensions of the expressions occurring in it” (Carnap, 1955, p. 34). In this way, Carnap thought that he was able to show that the meaning postulates selected for the sake of analyticity in artificial languages were not arbitrary, since “analytic” in that sense was an explication of the natural language concepts that could be made sufficiently clear by determining intensions based on linguistic behavior.251

4.8. Quine Sufficiently Clarifies his Views on Analyticity

Carnap did not live to hear Quine’s change of heart: “I now perceive that the philosophically important question about analyticity and the linguistic doctrine of logical truth is not how to explicate them; it is the question rather of their relevance to epistemology” (Quine, 1986, p. 207; emphasis in original). This change in view was importantly accompanied by (or, perhaps, prompted by) a reverberation in another part of Quine’s web of beliefs—“In ‘Two Dogmas’ I cited the second dogma only as helping to explain the widespread acceptance of the first dogma. Today I see the second dogma as the true villain of the piece” (1988/2008, p. 26). What, then, is the now villainous, second dogma of empiricism?

Though Quine introduces the second dogma as “reductionism” simpliciter (1951a, p. 20), when he gets to the section of his paper where he starts to discuss the dogma, it is clear that there are two kinds of reductionism that both ought to be rejected as mere dogmas. First, there is “radical reductionism”: the thesis that “Every meaningful statement is held to be translatable into a statement (true or false) about immediate experience” (Ibid., p. 36). Once again, Quine cites some works of Carnap as a case when someone propounded a false view, but as admirably as anyone can propound a false view. Recall from above that early in his career, Carnap had given a constructional (i.e., reductive) system of objects and concepts based on an autopsychological basis.252 In 1951, Quine pointed out, and I suppose Carnap would have at this time agreed, that


252 See p. 69 above. Recall also that Carnap thought that this was one of many possible constructive systems. Since radical reductionism, as Quine defined it, does not imply uniqueness, and Quine notes that Carnap accepted certain logical principles not reducible to immediate experience, Quine was not committing the common misinterpretation
the system did not succeed in a reduction, because some of the essential components of empirical statements could not, themselves, be translated into statements about immediate experience. Quine pointed this out not to undermine Carnap’s views (since at this time, as Quine states, Carnap no longer held a radically reductive view), but to suggest that if Carnap could not make the project work, prospects were dim for anyone making it work.

Though Quine did not introduce the second form of reductionism with an explicit label, he called it “a subtler and more tenuous form” (1951a, p. 38) of reductionism, compared to the radical view just discussed—hence, I will call this form “subtler reductionism.” The view is this: “each statement, taken in isolation from its fellows, can admit of confirmation or infirmation at all” (Ibid.). Quine’s view is that subtler reductionism must be false because confirmation and information can only apply to many statements in conjunction (or, perhaps more accurately, many beliefs about statements). Quine’s thoughts here can be illustrated with an example. Imagine that you and your spouse have a disagreement about whose turn it is to do the dishes—you each think it is the other’s turn—and suppose that weeks earlier you marked the turns on the calendar in the other’s presence. If, when you now check the calendar it reads that it is your turn, there are various things you can do. You can, of course, give up your belief that it was your spouse’s turn and now believe that it is your turn, but you can be perfectly logical and still not take this route—your belief, per se, has not been shown to be false. You can accommodate the evidence by keeping your belief that it is your spouse’s turn and then also come to believe that your spouse has tampered with the calendar, or you could even suppose that you are only hallucinating that the calendar says it is your turn. All that your exposure to the calendar has done is show that something is amiss, given your set of beliefs. Quine’s idea is that all of our beliefs are related in this manner—as parts of a whole system of beliefs, any of which can be given up in the face of “recalcitrant” experience, as long as the remaining beliefs are made consistent. Quine admits that we are less likely to give up believing in sentences like “the Earth revolves around the sun” than “it is your turn to do the dishes”—some beliefs are more “central” to our systems. Thus, according to Quine, “our statements about the external world face the

of ascribing to Carnap the view that all meaningful statements could only be translated into statements about immediate experience. Cf. fn. 180.

253 I suppose that this term should now be classified as obscure or obsolete, but its meaning is clear from the context as a compliment to “confirmation” (which is why it was called “disconfirmation” above). Thus, “infirmation” occurs when empirical evidence gives us reason to suppose a statement is false.

254 To be more in line with Quine’s discussion, one should say “the belief that the statement…is true,” but for ease of exposition, I mainly just talk about “the belief that…”
tribunal of sense experience not individually but only as a corporate body... [so, the unit of empirical significance is the whole of science] (Ibid., pp. 38, 39)—this is Quine’s Holism thesis. Though Holism per se does not require that we revise our beliefs in any specific way (perhaps, excepting the consistency constraint), Quine did contend that there is a rational way to revise one’s beliefs—namely on pragmatic grounds. Amidst their disagreements, Quine and Carnap held common ground when it came to normativity—one ought to do what works best for our purposes.

With Quine’s Holism now in the background, his mature views on analyticity are understandable. Quine had never given an impossibility argument against analyticity; he had simply demanded that one of the traditional uses of “analytic” be explicated in a scientifically respectable way, and none of the ones that he tried in “Two Dogmas” satisfied his demands. Starting in a 1974 work, The Roots of Reference, and continuing to the end of his career, Quine espoused the view that there is a pre-theoretical sense of “analytic” that can be explicated in terms of observable behavior:

The notion of analyticity, although without that technical word, is good common sense, and everyone shares it. When someone says: “Oh, I’ve just discovered, it looks to me as though bachelors are not married, no bachelor’s ever married!” we tell him: “That’s simply what the word means!” That’s a natural response of a non-philosopher, it’s all right, it makes good sense to everyone. And I think that a working notion of that can be defined in a rough way, which I suggested in one of my books, namely: “For a native speaker a sentence is analytic if he learned the truth of the sentence in learning the use of one of its words.” The bachelor-case is obvious there: The native speaker’s learned the truth of that only by learning the word “bachelor.” (Quine, 1998/2008, p. 94)

So, Quine’s idea was that sometimes, the way a term is introduced to us is by us being given a definition, or explained the paradigm linguistic context in which the term is used (by those who have a fairly strong grasp of the language). In this case of language acquisition, the individual

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255 Quine would later allow that only a sufficiently large portion of science which makes relevant predictions need be involved in what is confirmed or infirmed by experience.
256 Quine seemingly thought that espousing holism undercut analyticity in a unique way. Given the holism thesis “it becomes folly to seek a boundary between synthetic statements, which hold contingently on experience, and analytic statements which hold come what may” (1951a, p. 40), since suitable revisions could always be made to one’s set of beliefs so that the belief in any given sentence can be given up, or the belief in any given sentence can be retained. Carnap, however, did not think that this was a legitimate objection to his views: “I agree that ‘any statement can be held true come what may.’ But the concept of an analytic statement which I take as an explicandum is not adequately characterized as ‘held true come what may’” (Carnap, 1963/1997b, p. 921).
257 Glock (2010) remarks that this is “a fact that has been curiously, not to say studiously, ignored by his acolytes” (p. 135). While I agree that Quine’s explication has been widely ignored or remained unnoticed, there are those who have taken it seriously. See, e.g., Hylton (2002).
who was introduced to the term can now use it correctly, but only in a very specific way—in accord with how they were taught to use it. Quine cites the “bachelor-case” as an example, but more importantly, he elsewhere cites the logic-case:

the child in learning those basic logical connectives—“or,” “and,” and “if…then” and the rest, “every,” “some,” the various particles that go into purely logical formulas—learns them by observing the relation between various sentences that people will affirm, and observing that people don’t affirm a sentence and then deny an alternation [i.e., disjunction] of which that sentence is one part. And if he does it himself he is corrected. He misused the word [“or”]. So the acquisition of elementary, basic logic is just part of the acquisition of language. In this respect I do regard elementary logic as analytic in the sense of being something that is true, as they say, by virtue of the meanings of the words. (1994/2008a, p. 75)

Quine uses “logic” ambiguously throughout his writings, sometimes restricting it to propositional and predicate logic, and sometimes extending it to mathematics (counting set theory as part of logic). In Quine’s mature view, logic is analytic in the first, narrow sense but not in the second sense. Hylton explains Quine’s reasoning:

Crucially, however, there is no prospect of arguing on the same or similar basis for the analyticity of mathematics as a whole. Quine takes Gödel’s incompleteness theorem to show that mathematics as a whole is not deducible by obvious steps from obvious truths. (Hylton, 2002, p. 16)

How then can an empiricist account for mathematics? Quine’s Holism is essential to his answer:

the second dogma creates a need for analyticity as a key notion of epistemology, and...the need lapses when we heed Duhem [in accepting Holism] and set the second dogma aside. For, given the second dogma, analyticity is needed to account for the meaningfulness of logical and mathematical truths, which are clearly devoid of empirical content. But when we drop the second dogma and see logic and mathematics rather as meshing with physics and other sciences for the joint implication of observable consequences, the question of limiting empirical content to some sentences at the expense of others no longer arises. (1986, p. 207)

Mathematics remained one of the focal points of conflict between the mature views of Carnap and Quine. There are two related questions that empiricists need to address: (1) how are mathematical sentences meaningful and (2) how are they necessary? Of course, according to Carnap, the meaningfulness and necessity of mathematical sentences arises from their analyticity. The rules of any numerical framework will assure well-formed mathematical expressions, and their necessity is literally logical necessity, since they are logically derivable given the framework (with its meaning postulates). According to Quine, applied mathematics is ubiquitous in science (not to mention everyday dealings), so its formulae are part of whatever
sets of sentences get tested empirically—and hence, the formulae are meaningful in the same way as the obviously empirical sentences. As for pure mathematics, its formulae essentially share the terms of applied mathematics and are, hence, likewise meaningful. Hylton puts the point in this way: “once the vocabulary of [applied] mathematics is in place, how is inapplicable [i.e., pure] mathematics to be excluded? The demarcation makes no sense in mathematical terms, and so would lead to a clumsy and unworkable theory” (2007, p. 79). Finally, in the face of recalcitrant experience, parts (or all) of mathematics could, in principle, be given up to achieve a doxastic equilibrium. However, in practice, when prompted to revise some of our beliefs,

we rescind one that seems most suspect, or least crucial to our overall theory. We heed a maxim of minimum mutilation…In particular the maxim constrains us, in our choice of what…to rescind, to safeguard any purely mathematical truth; for mathematics infiltrates all branches of our system of the world, and its disruption would reverberate intolerably. If asked why he spares mathematics, the scientist will perhaps say that its laws are necessarily true; but I think we have here an explanation, rather, of mathematical necessity itself. It resides in our unstated policy of shielding mathematics by exercising our freedom to reject other beliefs instead. (1990/1992, pp. 14, 15)

Though he did not put it in these terms, Quine gave an explication of “necessary” along the lines of “not rationally worth giving up.” Whereas metaphysicians are indebted to Quine for promoting the study of ontology, they may find some of his views on modality repugnant.

Finally, according to Quine, does analyticity have any epistemological role to play besides allowing us to see when logicians are changing the subject, and children are misusing “bachelor”? For all intents and purposes, Quine’s answer was “no,” and his reasons were that over time, language evolves and people forget. Though we all learned many words by being told their definitions and how to use them, we come to use them in different ways (often guided by unconscious pragmatic purposes), and we stop thinking about the specific details of the learning process. As Quine said,

one doesn’t know when one has learned that a sentence was true, when one learned even one of the words going into the sentence, and it doesn’t matter, one doesn’t care. The word “momentum” came in by deliberate explicit definition, I believe—as a technical term, mass times velocity, momentum is proportional to velocity by definition, and then Einstein comes along and says: “No, momentum is not quite proportional to velocity, it’s proportional to velocity divided by something involving the square of the speed of light,” and the physicists don’t say: “You’re contradicting yourself, it’s a contradiction in terms.” They go along!
In short, even making a sentence true by definition does not implant itself in the sentence itself as an enduring trait. (1998/2008, p. 95)²⁵⁸

Even assuming that Quine’s account of analyticity is roughly correct from a descriptive standpoint, is it a justifiable jump to the normative claims that “it doesn’t matter, one doesn’t care” about the details of our own or others’ language acquisition? First, envisaging a counterfactual scenario where we all have much better memories than we in fact do have, would our inability to forget our language acquisition burden us with far more analytic truths? Second, consider the work of Deb Roy’s research group, the members of which have exhaustively monitored the language development of Roy’s son, and are in the process of painstakingly analyzing the “230,000 hours of audio-video recordings spanning the first three years of one child’s life at home” (Roy, 2009). Now, there is a record of the very circumstances in which the child learned to use the word “good.” Imagine that when he (the present day child) grows up, he listens to the audio recording of when he learned the word “good.” What is he then to think if he has changed his usage over time (thereby showing that he now misuses the word, as Quine indicated someone might misuse “or,” above)? What if he has kept his usage consistent, but now wants to change it? If Quine’s view on analyticity is to be viable, unusual scenarios like these need to be considered.

4.9. Misunderstandings, Problems, and Prospects

Since neither Carnap nor Quine can guard against misinterpretations of their work any longer, it is all the more urgent that current philosophers take care not to let common errors be perpetually taught, or to become canonical in the literature. The two most invidious misinterpretations, as I see it, are (1) that Quine’s main, or best argument against analyticity is that the notion is “unclear” and (2) that philosophers in general either do, or should accept that Quine’s objections to analyticity are decisive. With respect to (1), recall that Quine came to think not only that clarifying analyticity was not the important issue, but he ended up giving an explication of the concept. The source of the misinterpretation is undoubtedly the eminence of “Two Dogmas”—it is understandably required reading for many philosophy students. Though it

still serves an important role in prompting readers to consider the nature of analyticity, a new reader to the paper is liable to be misled by its structure. Since the discussion of clarifying analyticity takes up four sections of the paper (indeed, the first four), it is natural for readers to think that it is more significant than what is written in the other two sections. On the contrary, it is the latter, shorter part of the paper that introduced the world to Quine’s Holism, led him on an epistemological path that he followed for the rest of his career, and served as his lasting source of unhappiness with analyticity. With respect to (2), regardless of whether or not Quine does, in fact, have the strongest position in the debate, I maintain that it is illicit for contemporary philosophers to hold that Quine persuasively argued against an epistemologically robust notion of analyticity unless they also at least believe in, if not argue for, Quinean Holism—for that is the engine in Quine’s mature argument against analyticity. In particular, those who do not feel uneasy about determinate linguistic meanings (say, in the context of translation) seem to not be able to avail themselves of much of Quine’s work, since such meanings are prima facie incompatible with Holism.

Even putting all misunderstandings aside, however, there is still the lingering question: who had the stronger arguments, Carnap or Quine? If George (2000) is correct in saying “that one’s position on the analytic-synthetic distinction conditions how one views the debate about the distinction...there appears to be no way even to judge what kind of dispute it is without thereby taking a side in it” (p. 19), then Carnap and Quine may have had a dialectical stalemate. In more concrete terms, could it not have been the case that Carnap would have responded to any “recalcitrant experience” by advocating the building of a new framework, and Quine would have advocated the revision (with “minimum mutilation”) of our science? I contend that this misses a crucial point. The two philosophers shared a common ground that, seemingly, could have swayed one to the other’s view. Carnap and Quine were pragmatists who had enough intellectual integrity to sacrifice an otherwise attractive theory for the sake of an antecedently unappealing theory that better helps us achieve our aims. Thus, if the philosophers had agreed on what those aims are, presumably there could have been empirical tests to distinguish their theories. Unfortunately, neither philosopher wrote much on the theory of value. Of course, they agreed on the virtues of scientific predictability, simplicity, etc., but a robust axiology would certainly take moral aims into account. For example, Chalmers points out that in some cases
the answer to questions about the usage of words has serious practical consequences. For example, if we are arguing over whether a law has been violated, one often needs to settle the meaning of relevant words. Questions about what falls into the extension of “marriage” and “murder” may in some sense be verbal, but the answer to these questions may make a serious difference to people’s lives...This applies especially when those connotations are normative. What counts as “torture” or as “terrorism” might be, at one level, a verbal issue that a philosopher can resolve by distinguishing senses. But in a rhetorical or political context, words have power that transcends these distinctions. If the community counts an act as falling into the extension of “torture” or “terrorism,” this may make a grave difference to our attitudes toward that act. As such, there may be a serious practical question about what we ought to count as falling into the extension of these terms....Following the “ameliorative” project of Haslanger (2005), one might argue that expressions such as “gender” and “race” play a certain practical role for us and that role is played better by some conceptions than others, so “race” and “gender” ought to have certain meanings. (2011, pp. 516, 516-517, 542)

How can either philosopher’s views provide guidance in these kinds of cases? Suppose a Quinean were to suggest a thorough examination of all of our beliefs related to marriage. One reason that these kinds of issues tend to be so incendiary is because many people’s beliefs are in conflict—their webs tangle, as it were. Which beliefs, then, are to be given up in order to achieve a “minimum mutilation” of the relevant belief systems? Suppose a Carnapian suggests the framing of two languages: $M_1$, in which “marriage is a legal relation only possible between adult men and women” is analytically true; and $M_2$, in which “marriage is a legal relation only possible between adults” is analytically true. Certain populations would undoubtedly favor one language over another, but those populations are at cross purposes. Suppose one half of the population of the United States agreed to use $M_1$ and the other half $M_2$. How could we tell which group had the more useful language? Clearly to put forth happiness, divine commands, etc., would presuppose a certain moral theory for what ends we should have.

Carnap and Quine did not help us much on these questions, so the onus is on us to figure out what are our purposes for language. Perhaps because this task is so difficult, the prospects for ever definitively declaring victory in the Carnap-Quine dispute are slim. However, there seems to be the following general (i.e., admittedly oversimplified) difference between the two philosopher’s views: Quine’s theory is more meant to capture what intellectually responsible individuals actually do—he held that “[s]cience is a continuation of common sense” (1951a,
p. 42)\textsuperscript{259}; Carnap’s theory, on the other hand, is more meant to capture what intellectually responsible individuals could do, if only they would take care in framing their languages. Though one ought not to think of the difference between the two as a difference between description and prescription (for each of their views had both elements), it nonetheless remains true that Carnap was urging us to do something quite remote from normal belief revision. This is one reason why Carnap’s position has hardly been tried—the term “artificial” is apt, though Carnap would have preferred “rational reconstruction.” Thus, one major datum that might help to answer the nagging questions in the Carnap-Quine debate is whether Carnap’s project can actually be implemented on a large scale. Frege’s logic has proven fruitful, but had Russell, Whitehead, and others not made the symbolism less unwieldy, I doubt we would have the same amount of logic books that we do have, only full of Fregean conditional and content stroke lines. Perhaps Carnap’s linguistic engineering project would simply be too difficult for enough philosophers to put it into practice. At the very least, the prospect of making what we want from languages clearer (either because Carnapian frameworks would or would not provide us with it), and thereby putting the Carnap-Quine dispute in better perspective, should provide enough incentive to put Carnapian languages to the test.\textsuperscript{260}

\textsuperscript{259} Cf. fn. 239.

\textsuperscript{260} If an anecdote from Stein (1992, p. 279) is reliable, then Carnap was optimistic that within 200 years of being tried, his views would have been vindicated.
CHAPTER FIVE

WILLIAMSON’S NEW THREAT TO ANALYTICITY

Though there is a general presumption that Quine successfully purged analyticity from philosophy, the reports of analyticity’s death are exaggerated (to co-opt a phrase of Mark Twain’s). The fact is that some of the most prominent contemporary philosophers still discuss analyticity, and this empirically demonstrates that Quine in fact did not succeed in his task. One would surely find Boghossian and Williamson on any reasonably accurate list of those analytic philosophers who have done cutting-edge epistemological research in the past twenty years, and each has found it necessary to revisit analyticity. Unlike Boghossian, who is sympathetic to the possibility of a fruitful (epistemic) analytic-synthetic distinction, Williamson has argued that analyticity, while a coherent concept, does not have any crucial role to play in philosophy. Given the influence that Williamson has already garnered on topics like vagueness and counterfactuals, Williamson’s work on analyticity may well come to be part of the canonical literature on the topic. If that does happen, philosophers ought to examine Williamson’s remarks carefully, since only then is it clear that he has no more displaced analyticity than Quine did.

Williamson (2007) argues that “[t]he distinction between analytic truth and synthetic truth does not distinguish different senses of ‘true’: analytic and synthetic truths are true in the very same sense of ‘true.’… ‘[T]ruth’ is quite unequivocal between ‘analytic truth’ and ‘synthetic truth’” (p. 54). It is to Williamson’s credit that he seriously considered the opposing view, that there is a substantive ambiguity in “true.” Williamson’s two main arguments against “true” being ambiguous in these senses are reductios; according to him, if “true” were ambiguous, then the standard disquotational principles for true and false sentences, and the truth-tables for sentential logical connectives, would have to incorporate these distinct senses, but it is not

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262 This is the source of Williamson’s fullest treatment of analyticity, drawing on and expanding the work in Williamson (2003) and Williamson (2006).

263 Cf. Williamson (2007, p. 58), where he says that they are “true in exactly the same central sense of ‘true’” (emphasis added).

264 Williamson mentions logical positivists and Wittgensteinians as those who have said things that suggest such a view, but he does not allude to any in particular. Carnap would seem to be a clear case of the former, as he starts out his “Meaning Postulates” with “Philosophers have often distinguished two kinds of truth: the truth of some statements is logical, necessary, based upon meaning, while that of other statements is empirical, contingent, dependent upon the facts of the world” (Carnap, 1952, p. 65, emphasis added).
possible to do so while keeping the alleged senses of “true” distinct. I argue that in the case of the disquotational principles, Williamson offers an inadequate disambiguation, and when appropriately disambiguated, the correct statuses of the disquotational principles can be demonstrated. In the case of compositional semantics, I argue that while Williamson is correct that characteristic truth-tables cannot be generally disambiguated, what is important is that the same problem does not apply to particular applications of truth-tables. Finally, I offer some independent reasons for thinking that there is, in fact, a substantive ambiguity in “true.”

5.1. The Traditional Disquotationalist’s Dilemma

As has been increasingly common ever since Tarski’s pioneering work, Williamson takes biconditional equivalences between (1) “‘P’ is true” and “P” and (2) “‘P’ is false” and “not P” as given principles—in fact, he calls them “the theory of ‘true’” (p. 56, emphasis added).

I will, following Williamson, name these equivalences:

(T)

“P” is true if and only if P.

(F)

“P” is false if and only if not P.

See Tarski (1931/1936/1956) and (1944). It is worth noting that Tarski took pains to distinguish sentences of the object-language and the meta-language in order to avoid the liar’s paradox.

“P” is a declarative sentence in these disquotational principles, but I would prefer to remain as neutral as possible here on the controversy surrounding the bearers of truth. I think this is possible given that even philosophers with divergent views on the bearers of truth can agree that the disquotational principles hold (while debating whether the principle exhausts what can fruitfully be said about truth). As David (1994) remarks, “It is sometimes said that sentences are not really true or false at all, that they are not really bearers of truth or falsehood. Taken literally, the claim is quite absurd: ‘Bats are flying mammals’ is a sentence and is true; ‘Bats are birds’ is a sentence and is false…Of course, the claim that sentences are not really bearers of truth or falsehood is usually not intended to be taken literally. What is usually meant is that even though many sentences are true or false, they are so only ‘derivatively’ or ‘secondarily,’ whereas the ‘ultimate’ or ‘primary’ bearers of truth or falsehood are objects of some other kind, namely beliefs, or statements, or propositions…A disquotationalist might maintain that a theory of sentence-truth is a complete theory of truth because sentences are the only bearers of truth…[but t]his strongly counterintuitive denial would have to be backed up by extremely convincing and rather surprising arguments. A far more plausible approach for a disquotationalist would be to aim at a hierarchial [sic.] theory of truth in which sentence-truth functions as the bottom-level explanandum” (pp. 14, 15). Cf. Tarski (1944, p. 362). Thus, for the sake of this discussion, the reader should take “P” to either be a primary truth-bearer or an expression of a truth-bearer that can be called “true” or “false” by proxy, as he or she sees fit.

Williamson does not set up the biconditional for “‘P’ is false” per se, but does eventually give an “analogue for falsity of (Tasl): (Tasl) ‘P’ is analytically false or synthetically false only if not P” (2007, p. 56, fn. omitted).

Perhaps an allusion by Williamson to Tarski’s “Convention T” (or simply an abbreviation of “true”). In the following discussion, all sentences whose names start with “(T…” and “(F…” are either those explicitly so-named by Williamson, or those that I suppose he is committed to, given his remarks. See fn. 267. All other named sentences are original to this dissertation.

265 See Tarski (1931/1936/1956) and (1944). It is worth noting that Tarski took pains to distinguish sentences of the object-language and the meta-language in order to avoid the liar’s paradox.

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267 Williamson does not set up the biconditional for “‘P’ is false” per se, but does eventually give an “analogue for falsity of (Tasl): (Tasl) ‘P’ is analytically false or synthetically false only if not P” (2007, p. 56, fn. omitted).

268 Perhaps an allusion by Williamson to Tarski’s “Convention T” (or simply an abbreviation of “true”). In the following discussion, all sentences whose names start with “(T…” and “(F…” are either those explicitly so-named by Williamson, or those that I suppose he is committed to, given his remarks. See fn. 267. All other named sentences are original to this dissertation.
For the sake of allowing his opponent a hearing, Williamson would disambiguate these principles on their behalf as:

(Ta) \(^{269}\) “P” is analytically true if and only if P.

(Ts) “P” is synthetically true if and only if P.

(Fa) “P” is analytically false if and only if not P.

(Fs) “P” is synthetically false if and only if not P.

Upon evaluating some of these statements’ constituent conditionals, Williamson points out that the left-to-right (i.e., “only if”) conditionals hold and the right-to-left (“if”) conditionals fail. With respect to the right-to-left conditionals, he writes:

(Tarl) [—“P” is analytically true if P—] has a false instance when a synthetic truth is substituted for “P”; (Tsrl) [—“P” is synthetically true if P—] has a false instance when an analytic truth is substituted for “P.” There are no natural substitutes for the right-to-left direction of (T) in the form of separate principles for analytic truth and synthetic truth. (2007, p. 55)

Preserving the truth of (T) and (F) while incorporating both analytic and synthetic truths, then, involves disjoining the latter pair within the former sentences as:

(Tas) “P” is analytically true or synthetically true if and only if P.

(Fas) “P” is analytically false or synthetically false if and only if not P.

But, since analytic and synthetic truths are generally taken to be a mutually exclusive and jointly exhaustive division of all truths, their disjunction just is “simple truth,” as Williamson calls it. Thus, Williamson concludes that the attempt to disambiguate (T) and (F) “reinstates simple truth as the theoretically important characteristic” (2007, p. 55).

While Williamson’s argument that simple truth emerges unscathed once (T) and (F) are disambiguated as (Ta), (Ts), (Fa), and (Fs) is impeccable, I here suggest that this disambiguation does not capture what is important in a dialectical context where Williamson’s opponent maintains that analytic and synthetic truths are different in kind. The opponent can rightly say that in each case, Williamson’s biconditionals omit an essential and presently relevant feature of analyticity—namely, why analytic truths are supposedly different in kind from synthetic truths. In the Introduction, the prima facie constraints that any conception of analyticity (and syntheticity) must meet were set out, and it was observed that these constraints fell short of

\(^{269}\) Unfortunately, Williamson uses “(Ta)” and “(Ts)” to name other sentences (p. 55), but given his general naming conventions, he should have used different names in those cases. See fn. 268.
necessary and sufficient conditions. While this would seem to preclude the possibility of being able to state some essential features of analyticity and syntheticity, so long as there are some essential features, analytic truths are true because of whatever essential properties they have that guarantee satisfaction of the *prima facie* constraints on analyticity. To incorporate the most common locution in the literature, I will call something “true solely in virtue of the meanings of its constituent parts” when it meets the *prima facie* constraints for analyticity. Then,

$$(\text{AnDef}) \quad \text{analytic truth} \equiv \text{a truth that is true solely in virtue of the meanings of its constituent parts.}$$

(This is not a definition in the sense of being directly told the necessary and sufficient conditions of the term’s use, but it is a definition in the sense of “abbreviation.”) Since “synthetic truth” is defined (in the second sense) simply as “a truth that is not analytic,” synthetic truths are those that are true, but not solely in virtue of the meanings of their constituent parts.

Given that the main thesis of this discussion of Williamson’s work is that there is, in fact, good reason to believe that “true” is substantively ambiguous, there are serious concerns about characterizing analytic truths as “truths in virtue of meaning” (or, strictly speaking, “truths meeting the *prima facie* constraints for analyticity”) since “truth(s)” occurs in both the definiendum and the definiens of (AnDef). One worry is that if there are two kinds of truth, then the definition ought to be disambiguated in one of the following ways:

i. analytic truths are analytic truths in virtue of meaning.
ii. analytic truths are synthetic truths in virtue of meaning.
iii. analytic truths are analytic or synthetic truths in virtue of meaning.

However, (i) is vacuous, (ii) is false, and (iii) would suggest that Williamson is right to claim that “simple truth” emerges from the attempt to disambiguate “true” as “analytically true” and “synthetically true.” To see why this worry need not be a source of consternation, compare the earlier definitions of “analytic truths” and “synthetic truths,” with the definitions of “even number” as “a whole number that is divisible by two” and “odd number” as “a whole number

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270 Williamson gives the following appraisal of Quine’s (1951a) arguments: “Although he [Quine] may succeed in showing that ‘analytic’ is caught in a circle with other semantic terms, such as ‘synonymous,’ he does not adequately motivate his jump from that point to the conclusion that the terms in the circle all lack scientific respectability, as opposed to the contrary conclusion that they all have it…By ordinary working standards, the word ‘synonymous’ is quite clear enough to be useful” (p. 50).

271 See p. 2 above.

272 I am indebted to Russ Dancy for prompting me to think about these issues.

273 Strictly speaking, “evenly divisible by two” or “divisible by two without remainder.”
that is not even.” Clearly if the worry applies in the case of the definition of analytic truths, it applies analogously in the case of even numbers, as follows:

I. An even number is an even number that is divisible by two.
II. An even number is an odd number that is divisible by two.
III. An even number is an even or odd number that is divisible by two.

As with before, (I) is vacuous, (II) is false, and in (III) “simple number” appears. But there is nothing illegitimate about defining “even number” as “a number that is divisible by two.” It is not as if there are *first* numbers and *then* some of them become, or are picked out as, even; conversely, it is not as if even numbers have priority over numbers in general, creating one half of the numbers independently of the odd numbers creating the other half. Williamson’s opponent sees analytic and synthetic truths as *kinds* of truths, in the same way that even and odd numbers are *kinds* of numbers. If disambiguating the definiens of “even number” is uncalled for, then so it is with “analytic truth.”

Perhaps someone will see a relevant disanalogy here between even numbers and analytic truths. Divisibility by two may provide an explanation of why a number is even, but not why it is a number. With analytic truths, on the other hand, “meanings” (or, meeting the *prima facie* constraints on analyticity) are not merely supposed to explain why analytic truths are “analytic,” but *why* they are true. To make the analogy more apt, then, consider the following baseball example: there are two kinds of score-changing hits in baseball—those that tie the score and those that do not—and, naturally, the two kinds can be abbreviated as follows:

(ScDef) Score tying hit = def the changing of a score due to a hit with the runs batted in (RBIs) equal to a team’s score deficit prior to the hit.

(LdDef) Lead changing or sustaining hit = def the changing of a score, due to a hit, but not due to a hit with RBIs equal to a team’s score deficit prior to the hit.

It does not matter what the definienda are called since, as with (AnDef), they are simply abbreviations for the definientia that we care about. In (ScDef) and (LdDef) the “hit with RBIs…” clause is meant to explain *why* the score changed, not merely why the score change has a certain property (say, why the score change was less than 5 runs). On a more fundamental level, this would not suffice as an explanation of a score change—*that* would involve an enumeration of the relevant rules of baseball. However, for the purposes of defining “score-tying hit” and “lead-changing or lead-sustaining hit,” we simply need to be justified that there are
such rules—that hits, RBIs, score deficits, and the like are possible. Likewise, the “solely in virtue of the meanings of its constituent parts” clause in (AnDef) is meant to explain why the truth are true in such cases. A fundamental explanation of the very possibility of truth is an exceedingly difficult matter that need not be settled here, since a background assumption of this discussion is that there are truths. Whether truth is ultimately indefinable as Descartes and Frege thought, or can be explained in terms of some sort of correspondence, coherence, pragmatic consideration, or anything else, it is a genuine component of our conceptual schemes. So long as one is not a nihilist about truth (and would have to claim that none of (1)-(13) in the Introduction [p. 4] are true), (AnDef) should not be taken to be a non-starter, any more than (ScDef) should be taken as a non-starter by someone who is not an expert with the rules of baseball. I shall assume, with Williamson, that “[p]hilosophers should resist the professional temptation to require all speakers to be good at philosophy” (2007, p. 40).

5.2. The New Disquotationalist’s Disambiguation

In an effort to suitably disambiguate (T) and (F)—i.e., do so while including why analytic and synthetic truths are different in kind, as Williamson’s opponents request—a complete permutation of the two principles with the two kinds of truths and their respective defining features can be executed. This results in an array of eight sentences, which can be conveniently grouped, as follows:

Group 1

(anT) “P” is analytically true if and only if P because “P” is true solely in virtue of the meanings of its constituent parts.275

(synT) “P” is synthetically true if and only if P because “P” is true, but not solely in virtue of the meanings of its constituent parts.

(anF) “P” is analytically false if and only if not P because “not P” is true solely in virtue of the meanings of its constituent parts.

(synF) “P” is synthetically false if and only if not P because “not P” is true, but not solely in virtue of the meanings of its constituent parts.

274 See above, pp. 19, 58.
275 Again, strictly speaking, this amounts to “…P because ‘P’ meets the prima facie constraints on analyticity.”
I claim, and shall show below, that the members of Group 1 are *analytically* true and those of Group 2 are *analytically* false. Now, however, a first point of which to take note is that the right-to-left conditionals of (anT) and (synT) are “natural substitutes” of (T) in the form of separate principles for analytic and synthetic truth. By including why analytic truths are true in the biconditionals, the synthetic truths have been thwarted from falsifying the right-to-left analytic principle, and analytic truths from falsifying the right-to-left synthetic principle.

To see why the members of Groups 1 and 2 are analytic, it is instructive to examine the following quintessential example of an analytic truth from the literature on analyticity:

(anB) All bachelors are male.

In (anT) above, it is stated that analytic truths are true because of the features of sentences of language. One might think that this must be false since it seems like (anB) would have been true regardless of whether or not anybody had ever used the words comprising the sentence. That is, in a possible world where no language contains (anB), it is still the case that all bachelors are male, since being a bachelor or male does not depend on whether you are so-called by your peers—presumably, they depend on whether you are married, have a Y-chromosome, etc. Nevertheless, someone who argues this way takes too provincial a view of the matter. Consider the following:

(anG) All garblex are green.

We (English speakers) would certainly not say (anG) is true,²⁷⁶ so presumably someone who gave the argument above would have to say: “all bachelors are male’ is true whether or not anyone says so,” but that it is not the case that “all garblex are green’ is true whether or not

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²⁷⁶ Some would say (anG) is false and others would say (anG) is not truth-apt, in a similar way that some philosophers have held that non-referring descriptions are false (e.g., Russell [1905]), and some say they are neither true nor false (e.g., Strawson [1950]).
anyone says so.” But, consider a possible world where many inhabitants speak Genglish: in that world, all of our English-speaking counterparts speak English in the same way that we do, except

- on those few occasions when they have reason to emphasize the greenness of grass, then they tend to use “garblex” as synonymous with “green blades of grass,” and
- on those occasions when they discuss what we would call “bachelors,” they do not use “bachelors,” but instead use “gachelors.”

If this is in fact possible, clearly the counterparts could likewise claim “‘all garblex are green’ is true whether or not anyone says so,” but that it is not the case that “‘all bachelors are male’ is true whether or not anyone says so.” I see no non-question begging way to support the claim that English is sacrosanct in some way that Genglish is not (especially considering that it might have been the case that people believed that “people speak Genglish in the actual world and English in some non-actual possible world”). Unless someone is willing to say that both (anB) and (anG) are true regardless of whether or not anybody had ever used the words comprising those sentences, it must be concluded that it is not the case that (anB) would have been true regardless of whether or not anybody had ever used the words comprising the sentence; more generally, all ascriptions of truth depend, at least in part, on the language used to make the ascriptions. If (anB) is true, it is true, at least in part, due to the English language in which it is couched. Moreover, if (anB) is true, then (anG) is true, by parity of form, at least in part, due to the Genglish language in which it is couched. But, if (anT) is true, then something stronger holds: (anB) and (anG) are true solely due to the English and Genglish languages, respectively.

Williamson would reply, I believe, that this argument conflates the semantic with the metasemantic: of course semantics is needed for us to connect language with the world, but truth depends entirely on the world, so from the perspective of truth-aptness, meanings are taken as given, regardless of why they are those meanings. As an example of how this works, Williamson writes, “my [stipulating] ‘A zzz is a short sleep’ made ‘zzz’ mean a short sleep…[which] helps

\[\text{This term is not meant as an endorsement of trans-world counterpart theory, but just as a serviceable term of comparison.}\]

\[\text{Such a person would presumably also have to say that innumerably many non-English sentences are true whether or not anyone has ever used the words in the sentences (e.g., [anK] “All kizaners are kind” is true, even though nobody has ever discussed a possible world where “kizaner” means something).}\]

\[\text{The “dependence” on language of a metalinguistic truth like “there are four words in ‘The sky is blue’” would only be derivative. The truth of the claim depends on the way the world is vis-à-vis the meanings of “four,” “words,” etc.}\]
make ‘A zzz is a short sleep’ true only because a short sleep is a short sleep’ (2007, p. 72), but too much is assumed here. In fact, all that can be said is that my stipulating “A zzz is a short sleep” makes “zzz” mean the same thing as what “a short sleep” means, and makes “A zzz is a short sleep” mean the same as what “A short sleep is a short sleep” means. What “a short sleep” and “A short sleep is a short sleep” mean, of course, depend on other semantic and metasemantic facts. But regardless of those specific facts (as long as there are such facts), “a zzz is a short sleep” is true simply in virtue of the metasemantic identity that obtains between the meanings of “zzz” and “a short sleep.” In (anT), “P because ‘P’ is true solely in virtue of the meanings of its constituent parts” amounts to the claim that the metasemantics of “P” is sufficient for the semantics needed to determine the truth of “P.” The advocate of (anT), then, needs to explain how the metasemantics of a natural language can be sufficient for the relevant semantics in such cases.

### 5.3. The Nature of Nominal Definitions

The most straightforward explanation, and the explanation that I suppose most non-philosophers would give, of why (anB) is true is that “bachelor” means by definition (in the English language) “unmarried adult male” and, thus, (anB) is true in virtue of the fact that it means the same thing as “all unmarried adult males are male,” which is an obvious truth. However, this seemingly simple explanation requires extensive exegesis to retain its plausibility. The exact kind of definition that supposedly bequeaths meaning, in this case, is not immediately clear. It is implausible that we learn the meaning of the word “bachelor” by ostensive definition (like a child learning the meaning of “red” by someone saying “red” and pointing at a fire-truck), or that most people would accept that whoever first taught them the word had the authority (like Frege did when it came to mathematics) to stipulatively define it. (It is even less likely that

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280 Williamson does start out this quotation by saying “At best…,” which would suggest that he is only attributing it to his opponent, but in the next sentence he calls it an example of “the standard contribution of meaning to truth” (2007, p. 72), suggesting that he thinks that this is, in fact, how such a case works.

281 “Obvious” here is the colloquial term with which I suppose non-philosophers would be happiest, in this context. Philosophers would be more inclined to call it “truth-functional tautological” or “self-evident,” depending on whether language or epistemology was being emphasized.
non-philosophers undertake a philosophical analysis in order to determine the so-called “real”\textsuperscript{282} definition of “bachelor.”) Instead, the kind of definition assumed here is what is variously labeled a “nominal,” “lexical,” or “dictionary” definition\textsuperscript{283}—a report of how (in this case, English) speakers\textsuperscript{284} use the word. One problem with grounding the truth of (anB) in a nominal definition, however, is accounting for how a nominal definition is even possible, given that there can be so much variation among (English) speakers. Apropos, if hypothetical, scenarios are as follows:

- Some English speaker who has never heard the term “bachelorette,” but did hear the term “bachelor,” thinks that a certain single woman is a bachelor.
- “Aren’t you the little bachelor?” some English speaker says to a young boy who has a penchant for conversation with girls.\textsuperscript{285}
- A married man gallivants about town, and is said by English speaking onlookers to be living the life of a bachelor (not merely like a bachelor).
- An English speaking Wittgensteinian maintains that “bachelor” is a family resemblance term\textsuperscript{286} that cannot be given the necessary and sufficient conditions that the alleged nominal definition presupposes.
- As Harman has pointed out, “ordinary speakers of English are not willing to count as a bachelor the Pope, a man who has lived with a woman for several years without getting married, etc.” (1996, p. 398, emphasis added; Cf. Harman [1976]).

We therefore have an initial reason to doubt that there is a nominal definition—i.e., that there is any single English usage on which to report, for “bachelor.”

Another problem for the above explanation of why (anB) is true is that it gives no independent reason for why “all unmarried adult males are male” is true (other than classifying it as “obvious”). Articulate non-philosophers (and devout Kantians) would presumably claim something along the lines that the predicate is “built into” the subject. A more thorough analysis

\textsuperscript{282}Real definitions purport to specify the essence of what a word or phrase expresses, given a correct ontology. The standard example of a real definition is the one typically ascribed to “water”—it is essentially (in a physicalistic or materialistic ontology) H\textsubscript{2}O. That a real definition does not normally ground usage should be clear from this example—people legitimately use the word “water” before they learn atomic theory, and people legitimately used the word “water” before there even was (modern) atomic theory.

\textsuperscript{283}I will call these “nominal definitions” for the remainder of the discussion. In this case, such a nominal definition is straightforwadly per genus et differentiam—i.e., by specifying a category (here, any one of “males,” “(un)married individuals” or “adults”) and then excluding members of that category by “intersecting” it—in a set-theoretic sense—with other non-coextensive categories (here, the remaining two). Not all nominal definitions are of this sort, however. For example, the nominal definition of “jade” is a disjunction—set-theoretic union—of two categories (jadeite and nephrite), “electron” is a theoretical posit, etc.

\textsuperscript{284}What “(English) speaker” amounts to is a difficult question in its own right, but in practice, such people are generally easy to identify—they are fluent enough to have relatively few faux pas as the result of linguistic misunderstandings in certain parts of the world (e.g., London, New York, etc. for English speakers).

\textsuperscript{285}Perhaps this is a case involving metaphorical exaggeration, like calling the mail delivery person “lightning fast.”

\textsuperscript{286}See p. 56 above.
of quantified sentences is available using modern logic. With natural interpretations for the predicates, “all unmarried adult males are male” can be symbolized as,

\[(\forall x)([(Ux & Ax) & Mx] \supset Mx)\]

Since (PLSym) can easily be shown to be a theorem in first-order logic, it is quantificationally, and hence logically, true. This would presumably be a sufficient explanation if everyone agreed that “logical truths” are aptly named, but, as with nominal definitions, unanimity is not to be had. Consider the following modified example of Williamson’s, where a particular philosopher denies that this instance of a “logical truth” is true at all, because of certain theoretical commitments:

[Let us suppose that w]hat worries him is vagueness. He believes that borderline cases for vague terms constitute truth-value gaps. Like many truth-value gap theorists (such as Soames [1999]), he generalizes classical two-valued semantics by treating the gap as a third value (“indefinite”) and using Kleene’s three-valued “strong tables” (1952, p. 334)...[so that] for “Every F is a G” to be true is for the conditional “x is an F [\supset] x is a G” to be true for every value of the variable “x”; for “Every F is a G” to be false is for “x is an F [\supset] x is a G” to be false for some value of “x.” (Williamson, 2007, p. 87)

The hypothetical philosopher maintains that “man” is a vague word and for some values of “x,” neither the antecedent nor the consequent are true (they are indefinite), so the conditional is not true for some value of the variable; thus, “every unmarried adult male is a male” is not true.

The problem here with both nominal definitions and the status of logical truths is one that is endemic to philosophy—people can disagree about anything (even if in practice they do not). The Stoics and Posidonius implored us to not “abandon philosophy on account of the different opinions prevailing among philosophers, since on this principle one would wholly quit life” (Diogenes Laërtius VII 66, trans. 1853, p. 306). In like form, let us not abandon the nominal definition of “bachelor” or the truth of (anB) solely because a minority of people (philosophers or otherwise) would deny it, since on that principle, one would eschew nominal definitions and truths altogether. Instead of taking non-uniformity of usage as showing that there is no nominal definition, we may instead (and, from a pragmatic perspective given the usefulness of nominal definitions, should) deny that nominal definitions require unanimity. Those who are willing to say that “bachelor” is indeed (nominally) defined as “unmarried adult male” do so, it seems, on the basis that a sufficient majority of English speakers—however many that might be—ratifies the definition, happily ignoring the outliers as either “out of touch” with the majority generally, or as unusual cases that “don’t matter” (e.g., in non-philosophical contexts, nobody cares

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whether the Pope is a bachelor). However, in this stance, strictly speaking, the only way to define “bachelor” would be to undertake an arduous sampling of English speakers, and hope that there are not so many outliers as to put the sufficient majority usage into question (as, e.g., a borderline case of sufficiency). Barring exorbitant lexicographic grant funds, even if there is sufficient convergence in usage—metaphysical nominal definitions, as it were—practical limits seemingly obstruct epistemic access to discovering those definitions.\textsuperscript{287} To be intellectually responsible, then, some might think that we must hold judgment in abeyance on nominal definitions until extensive research is completed.

Philosophical dissention from logical truths presents a different, and seemingly more difficult, problem. No matter how many people are like the hypothetical philosopher in claiming that “logical truths” are not true, one hardly has to do a survey to be justified in believing that those people are in the minority. Unlike nominal definitions, what is true is almost never determined by majority belief.\textsuperscript{288} Though the majority view in the ancient world was that the sun orbited the earth, this was shown to be false by astronomical discoveries, not merely by the corresponding shift in the majority view.\textsuperscript{289} To dismiss a philosopher for holding an unpopular philosophical view is analogous to some contemporary of Copernicus not countenancing his arguments simply in virtue of his conclusion being contrary to orthodoxy. Of course, extenuating considerations can undermine a person’s credibility (say, if Copernicus’ reason for believing in the heliocentric hypothesis had been that the number of stars is even), since quackery is always a legitimate worry. But, as Williamson points out, we can imagine that the philosopher in the hypothetical example,

\textsuperscript{287} If a lexicographer is part of an unusually small (comprehensive) cohort of speakers of a certain language, nominal definitions presumably would be epistemically accessible. However, the present discussion concerns English—a natural language shared by untold millions of people. Moreover, if we were to try to understand the language with a small number of speakers, we would be put in the position of “radical translation” (Quine, 1960) or “radical interpretation” (Davidson, 1984), the problems with which are outside of the scope of this discussion.

\textsuperscript{288} It is this very fact that allows Thoreau to use “majority” in a non-literal sense, to emphasize its independence from the more important “truth”: “any man more right than his neighbors constitutes a majority of one” (1849/1864/1906, p. 369).

\textsuperscript{289} Though examples where the majority view denied some presently accepted analytic truth are rare, if the set of believers is unrestricted, there might be some cases where a majority of people who have had the relevant beliefs might have denied it. For example, it can be argued (though by no means without detractors) that Gödel’s first incompleteness theorem amounts to showing that it is analytic that there are arithmetical truths that cannot be derived in any sufficiently strong axiomitization of arithmetic. I believe that this was a minority view in the mathematics community of the early 20\textsuperscript{th} Century, so even though a majority of people did not deny the implications of Gödel’s first incompleteness theorem (and neither did they affirm them), a majority of those who considered such matters had denied them.
seems like most philosophers, thoroughly competent in [his] native language, a bit odd in some of [his] views... [Then] the question is whether [his] eccentricities are sufficiently gross and extensive to constitute defeating circumstances. By ordinary standards, they are not. Although they look gross enough when seen in isolation, they are compensated for by [his] normality in other respects. (Williamson, 2007, pp. 89, 90).

To be intellectually respectful, then, some might think that we must hold judgment in abeyance on logical truths until philosophical unanimity is achieved.

Fully addressing the questions of judgment under uncertainty and dialectical adjudication would take this discussion too far afield into epistemology and metaphilosophy, respectively, for present purposes. A few remarks, then, will hopefully suffice. For many people, definitions are like air, in the sense that they do not worry about them until there is a problem. A case in point was when Socrates pressed people to define important terms such as “justice,” “piety,” “courage,” etc. Most of his interlocutors had presumably never explicitly tried to define the terms, so their (usually rather feeble) initial responses—which, I suppose, would be similar to those of most contemporary non-philosophers—were based on heuristics and biases (to borrow terms from psychological literature). Since Socrates was usually quick with a counterexample and reluctant to offer a definition of his own, his definitional discussions would typically end in an aporia—with a difficulty made manifest but left unresolved. Today, however, I suppose many people would not let the matter end in that fashion. Instead, they would invoke a kind of division of linguistic labor, where even though they are not able to define the words, they suppose that there are people who can—namely, lexicographers. Nevertheless, lexicographers are also susceptible to the epistemic problem of nominal definitions, even if they have done more legwork than the casual English speaker. In the end, both dictionary makers and dictionary readers end up relying on anecdotal evidence when giving a definition—we all assume that anecdotal evidence is representative of a sufficient majority usage, though only some of us have reservations in doing so. As far as I can remember, in any case where we (here I suppose you, the reader, and I, the author, are similar in this respect) have heard someone use the word “bachelor” (as opposed to mentioning it, as in the bullet-pointed cases above), the speaker was

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290 Williamson (pp. 92-94) cites the cases of Vann McGee and Graham Priest to show that this is a real possibility. These philosophers have denied instances of principles that most other philosophers do not question (namely, modus ponens and non-contradiction, respectively), while nonetheless retaining their statuses as English speakers and, indeed, eminent logicians.

291 See Putnam (1975, p. 228), and Williamson’s discussion (2007, p. 98).
committed to using “bachelor” as “unmarried adult male.” Of course, we might be wrong—our memories might be faulty or our evidence might be insufficient, in that either no majority usage exists or we have inducted on the wrong anecdotes. But we normally put these worries aside, and would not hesitate to answer a child’s question “what does ‘bachelor’ mean?” with “unmarried adult man.”

Since the epistemology of logic is not primarily a question of practical limitations, but is a substantive philosophical issue, much more could be said on its behalf. Nevertheless, to retain a focus on the issue at hand—namely, disambiguating disquotational principles and truth-tables—I shall take logic as provisionally secure. Of course, an allowance ought to be made for these provisional bedrock claims to be open for debate, if only for prudential reasons (à la Mill, in On Liberty). But, since most people will allow that instances of logical truths, such as “all unmarried males are male,” are true, I here work with “logical truths” as truths.

5.4. Justifying Disquotational Principles

Before moving on, here is a review of the ground covered so far. Williamson entertains the idea of analytic and synthetic truths being different in kind, but he argues that this assumption brings us back to a single “simple truth” due to how the disambiguation would have to be applied to the disquotational principles. I offered a different disambiguation, based on the idea that if there are different kinds of truth, we must not only substitute the names for the kinds—namely, “analytic truth” and “synthetic truth”—into one part of the biconditional, as Williamson did, but we must alter the other part of the biconditional to include a description of what is unique about the kinds. I have suggested that the sentences that emerge can be classified as analytically true or false. It is precisely what emerged from the discussion of nominal definitions and logical truths that allows a demonstration that this is the case. My exegesis of the intuitive explanation of why the quintessential example of an analytic truth—“all bachelors are male”—was true, made recourse to transforming the original sentence into a logical truth by definitional substitutions. While there are practical limitations preventing us from full confidence in any nominal definition that we propound, if we have good reason to believe that we are

292 Indeed, even mid-century Quine accepted these logical truths as true. See Quine (1951a, p. 23).
inducting a nominal definition from a relevant sampling of anecdotes, we may feel reasonably secure in the resulting assumed nominal definition. Finally, while this explanation relies on so-called “logical truths” being true, we here admit this as provisionally acceptable.

In the intuitive explanation of why “all bachelors are male” is true, it was shown that (anB) was transformable into an instantiation of a logical truth by definitional substitutions. This latter description is frequently called “Frege-analyticity,” since it found its most influential proponent in Frege.\(^{293}\) To be clear, Frege-analyticity is not being identified here with analyticity since there are reasons to suppose that not all analytic truths are Frege-analytic. One recalcitrant example in this regard is the color exclusion problem: “something cannot be both red all over and blue all over” has been taken to be another paradigm case of analyticity, but there is no clear way to transform it into a logical truth by definitional substitutions.\(^{294}\) Nevertheless, the discussion of (anB) shows that Frege-analyticity is a good candidate for being a case of when a sentence is true solely in virtue of the meanings of its constituent parts.\(^{295}\) Another reason to think that Frege-analyticity is legitimate here is because Williamson countenances Frege-analyticity, calling it “quite intelligible” (2007, p. 63).

With this assumption, it is now possible to demonstrate that the biconditionals of Group 1 are analytically true and that those of Group 2 are analytically false. I will here only show that (anT) and (anT') are analytically true and analytically false, respectively, since they are representative of the rest. If we substitute the definiendum “analytically true” for its definiens from (AnDef) into (anT), we get the following:

\[(anT1) \quad \text{“P” is analytically true if and only if } P \text{ because “P” is analytically true.}\]

If one substitutes the definiens for the definiendum, instead, the substitution results in:

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\(^{293}\) See the discussion of Frege in Ch. 3, above.

\(^{294}\) See p. 5, above.

\(^{295}\) Williamson writes that, “In one good sense, sentences of the form “P if and only if actually P” are logical truths, and therefore Frege-analytic…[since] it is not necessary for me to be my actual height…Thus Frege-analyticity… violates Kripke’s constraint that analyticity implies necessity. In this respect Frege-analyticity too may diverge from the traditional conception” (pp. 64, 65). But as Williamson notes earlier (p. 51), “he [Kripke] stipulated that ‘analytic’ entails…‘necessary.’” Someone who takes Frege-analyticity to be a paradigmatic case of analyticity will of course not accept either (or both) that (1) sentences essentially referring to the actual world are logical truths in a “good sense” or (2) that their opponent may stipulate something that entails Frege-analyticity is not a case of analyticity (and perhaps this is why Williamson wrote “Frege-analyticity…may diverge from the traditional conception” [emphasis added]).
“P” is true solely in virtue of the meanings of its constituent parts if and only if P because “P” is true solely in virtue of the meanings of its constituent parts.

In either case, abbreviating the left component of the biconditional by “A” gives:

A if and only if P because A.

Thus, transforming (anT) by substituting the definiens for the “analytically true” definiendum, or vice versa, generates (anT4), a logical truth, and demonstrates Frege-analyticity. Substituting the definiendum “synthetically true” for its definiens “true, but not solely in virtue of the meanings of its constituent parts” into (anT'), results in the following:

“A” entails that “A” is true—otherwise there would be no reason to say that “P because A” given Grice’s maxims of conversational implicature—so (anT3) is true if and only if the following is true:

A if and only if A.

Since analytic and synthetic truths are mutually exclusive and jointly exhaustive categories, (anT'1) entails:

It is not the case that “P” is synthetically true if and only if P because “P” is synthetically true.

Abbreviating “‘P’ is synthetically true” by “A” gives:

It is not the case that A if and only if P because A.

As before, this entails:

It is not the case that A if and only if A.

Transforming (anT') by definitional substitutions generates (anT'4), a logical falsehood. Similarly, by definitional substitutions, (synT), (anF), and (synF)—the remaining members of Group 1—generate (anT4); and (synT'), (anF'), (synF')—the remaining members of Group 2—generate (anT'4). Thus, the members of Group 1 are demonstrably analytically true, and those

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Grice (1975/2008) points out that in many cases of language use (and clearly ordinary philosophical contexts are one of them), we adhere to rules of communication that contribute to achieving some goal. When we are trying to explain something, we are expected, among other things, to assert what we think is true (follow a conversational maxim of “quality”) and not include irrelevant information (follow a maxim of “relation”).

It is worth noting that since (anT) is analytically true, when (anT) is taken as a substitution instance into itself for “P,” both conditionals have true antecedents and consequents.

Some of these transformations require the following (assumed) definitions:
of Group 2 are analytically false. Not only has a complete disambiguation of disquotational principles for truth and falsehood been given, it has been demonstrated which principles are true and which are false (assuming that “logical truths” are true, and “logical falsehoods” are false).

5.5. Compositional Semantics at the Characteristic and Particular Levels

Williamson supplements his earlier argument with considerations on compositional semantics. If one tries to incorporate two kinds of truth into the truth-table for a material conditional, the new truth-table will have sixteen lines. Worse, consider this case:

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>A (\Rightarrow) B</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>T</td>
<td>T</td>
<td>T?</td>
</tr>
</tbody>
</table>

What subscript is appropriate for the third column? Suppose that Barbara is a barrister, and therefore a lawyer. Of the following four sentences, (1), (2) and (4) are synthetic while (3) is analytic (with “if” read as \(\Rightarrow\)):

1. Barbara is a barrister.
2. Barbara is a lawyer.
3. If Barbara is a barrister, Barbara is a lawyer.
4. If Barbara is a lawyer, Barbara is a barrister.

Since Barbara could easily not have been a lawyer at all, (1) and (2) are synthetic. If there are analytic truths, (3) is one of them; “barrister” simply means a lawyer with certain qualifications...Since Barbara could easily have been a lawyer without being a barrister, by being a solicitor, (4) is synthetic too...Therefore the truth-table cannot be completed. Whether a material conditional is analytically true and whether it is synthetically true are not a function of whether its antecedent is analytically true, whether its antecedent is synthetically true, whether its consequent is analytically true and whether its consequent is synthetically true. (Williamson, 2007, p. 57)

Williamson here gives two arguments against the possibility of incorporating a disambiguation of truth within compositional semantics. First, he takes the explosion in the number of rows of such updated truth-tables to be unappealing, but not devastating (for the second argument is

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- “P” is analytically false if “not P” is analytically true;
- “P” is synthetically false if “not P” is synthetically true.

He also briefly discusses logical entailment, but his essential points are the same as for compositional semantics. In general, instead of there being the standard \(2^n\) rows in the truth-table, where \(n\) is the number of sentence letters, there will be \(4^n\) rows, which is \(4^n/2^n = 2^{2n}/2^n = 2^n\) times as many rows, compared to the non-disambiguated tables.
“worse” for the proponent of an ambiguous truth). Second, he gives a case where the disambiguated truth value of a conditional is not a function of the disambiguated truth values of its components.

For Williamson’s opponent, however, I suppose that both of these would be looked at as legitimate consequences rather than cases of “bullet-biting.” Even in the case of standard compositional semantics (with generic “T”s and “F”s), if our mission is to do a full truth-table, the number of rows increases exponentially with the number of sentence letters; even though very few people enjoy doing 16 row truth-tables, sometimes that is exactly what is pedagogically best for a student in an introductory logic class to do. Williamson’s second point is more significant. He shows that in a disambiguated characteristic truth-table, some truth values of the conditional would not be one of the two “T_{analytic}” or “T_{synthetic}.” Nevertheless, Williamson is too quick to claim “Therefore the truth-table cannot be completed.” In such cases of characteristic truth-tables, there is nothing illegitimate about having the placeholder “T_{analytic or synthetic}” as an abbreviation for “the sentence might be T_{analytic} or T_{synthetic} depending on the case.” In any particular case, it will be one or the other, but not both. After all, in Williamson’s examples, (3) and (4) did not have the truth value “T_{analytic or synthetic}”—they had the truth values “T_{analytic}” and “T_{synthetic},” respectively. Williamson does consider what would happen if we allowed putting “T_{analytic or synthetic}” in the truth-table, and points out that if embedded conditionals are allowed, “T_{analytic or synthetic}” would seemingly serve as the antecedent or consequent of a larger conditional and, thus, the characteristic truth-table would have to be updated to include this possibility. “In effect,” he concludes, “we have merely recovered a single sense of ‘true,’ applicable to both analytic truths and synthetic truths, albeit awkwardly defined by a disjunction” (p. 57). Again, however, any particular sentence would have a non-disjunctive truth value, so it would be unnecessary to update the characteristic truth-table. His point here is akin to someone demanding that there be the following row in the standard characteristic truth-table for the material conditional:

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>A \supset B</th>
</tr>
</thead>
<tbody>
<tr>
<td>T or F</td>
<td>T or F</td>
<td>T or F</td>
</tr>
</tbody>
</table>

This is not necessary, since any particular sentence that the sentence letters represent will have one or the other truth value, but not both. Similarly, any particular sentence that a sentence letter represents will only have one of the four truth values—T_{analytic}, T_{synthetic}, F_{analytic}, F_{synthetic—and no
more than one. In the case of executing a truth-table for general embedded connectives, we would have to generate separate truth-tables for “T_{analytic}” and “T_{synthetic}” each time a “T_{analytic or synthetic}” occurred as an immediate sentential component. The only time “T_{analytic or synthetic}” could occur in a truth-table would be under the main connective, again as a placeholder for “the sentence might be T_{analytic} or T_{synthetic} depending on the case.” This generation of numerous truth-tables would undoubtedly be an onerous task for many sentences, but as was said before, that is simply the nature of truth-tables. Lastly, Williamson is wrong to claim that “[w]hether a material conditional is analytically true and whether it is synthetically true are not a function of…whether its consequent is analytically true,” since a conditional with an analytically true consequent is analytically true (on the assumption that Frege-analytic sentences are analytic). Ultimately in the disambiguation, the connectives are only partially truth-functional, but that does not give us reason to ignore those cases when they are, and appreciate the specificity of the cases when they are not.

5.6. Why Think “True” is Two (Senses)?

Even though Williamson is incorrect to maintain that disambiguating the disquotational principles and truth-tables with analytic and synthetic truths leads to unacceptable results, someone might still question whether we should disambiguate as above, since it has not been shown that analytic and synthetic truths are in fact different in kind—i.e., that truth is ambiguous. I will end this discussion with a few suggestions for why “truth” might, in fact, be ambiguous. If things are different in kind, one may perhaps think they have to be toto genere different—different in every way—but that seems impossible, considering properties like “is numerable” or, for most of the things that we are typically interested in, “is spatial or temporal.” Moreover, subsumption of different kinds of things under the same term (e.g., labradors and poodles under “dog”) cannot legitimately happen if they kinds are too different. No significant connection would be lost if we adopted a convention where river banks and financial banks were no longer to both be called “banks” since (as far I know) there is no sensible reason why the side of a river should have the same name as a financial institution—the extension of “bank” is a mereological sum with vastly different members. On the other hand, no longer calling labradors and poodles “dogs,” really would seem to undermine an important connection between the two.
Similarly, someone who says that there are different kinds of truths must be making the claim that there is a substantial enough difference between two things that nevertheless both merit being called “truth.”

Williamson entertains the possibility that analytic and synthetic truths are “true in very different ways, just as being a mother and being a father are two very different ways of being a parent; [but, even then,] ‘parent’ is not ambiguous between mothers and fathers” (p. 58). The truths are relevantly disanalogous from the parents, in this case, however. The way that we learn how to use “parent” is precisely by being told it is the disjunction of “mother” and “father”; even though “(simple) truth” is a disjunctive term, we do not learn it as such. Instead, I suspect that we first come to hold that truth is some kind of correspondence with the way the world is, as opposed to the way that we wish that it were. It might be thought that analytic and synthetic truths are more like terms of art, such as prime and composite numbers, red giant and white dwarf stars, realist and impressionist paintings, etc. In these latter examples, I suppose that most people learn about the genera first (numbers, stars, painting, etc.), and then are later taught that they may be partitioned into various kinds. But, again, I suspect it is otherwise with truth. We first learn truths in one guise—namely as mundane synthetic truths (e.g., someone is telling the truth, it is true that your mother will pick you up after school, etc.). Our degree of credibility is highest one day for these truths—they are the unquestioned assumptions of our intellectual lives—and then we start learning mathematics, doing word puzzles, and, for some people, studying philosophy. We are forced to realize that there are things even more credible than what we formerly thought was most credible. Even though we believe that it is a truth that the sun is going to rise tomorrow, philosophers are quick to point out the problem of induction. Even though we are still going to believe that the sun will rise, we recognize that it is not as secure as the indubitable foundation that Descartes was after. There is an etiology of learning truth—we set the bar with synthetic truths, and raise it with analytic truths, but we do not want to give up the synthetic ones because we have to live with them. A better analogy between analytic and synthetic truths, on one hand, and parents on the other would be when a child who grows up calling two people her “mother” and “father” is later told that she was adopted—though she will now talk of her biological parents as her “mother” and “father,” she may nevertheless refuse to

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301 He subsequently rejects them being true in “very different ways” based on the compositional semantics considerations already discussed.

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relinquish using those titles with her adopters, even though the two kinds of “parents” are substantively different. Similarly, at least for many of us, once we are exposed to the difference between analytic and synthetic truths, we feel that we have a more accurate picture of how the world actually is. Just as lovers of wisdom would rather know the truth (whether pleasant or unpleasant) about their “parents” than not know, philosophers ought to want to learn the truth (whether simple or complex) about “truth.”
CHAPTER SIX

CONCLUSION

Though Kant, the philosopher most often associated with analyticity, thought that the concept was of secondary importance to syntheticity, analyticity is in fact second to none when it comes to understanding the work of various philosophers. Analyticity is primarily a concept in the philosophy of language, but its study naturally leads to investigations in metaphysics, epistemology, the philosophy of mathematics and logic, and even the most basic components of philosophy—argumentation and truth. A study of analyticity is an invitation to appreciate some of the greatest minds of all time; whether one agrees with any of their views, no one can seriously deny that Descartes, Frege, Carnap, Quine, and Williamson were, or are, philosophers of the highest order, and have provided works meriting thorough examination.

In spite of the fact that Descartes is traditionally not thought of as a key philosopher when it comes to analyticity, there are important considerations that connect the two. Erde and Katz made interesting, while ultimately unsuccessful cases for Descartes’s “cogito ergo sum” being analytic. I argue that when faced with a skeptic about the truth of “I exist” or “I am thinking,” these cannot be argued for without begging the question, but it nonetheless seems possible to gain a dialectical advantage over the skeptic, due to the nature of performatives. Finally, Díaz was correct to claim that analyticity can be seen as intimately related to Descartes’s ontological argument, but not for the reasons that Díaz gave. In fact, the relation of semantics to ideas according to Descartes’s theory entails that we can know that “God exists” is true, solely based on the meanings of its terms.

Frege attempted to put analyticity on the firmest epistemic grounds—logic and definitions. He rejected Kant’s limitation of analyticity to subject-predicate judgments and, even more significantly, Frege disunited analyticity from a strict adherence to the concepts that we already have. Frege pointed out that our concepts, and the words that we use in natural language to express them, are often vague and such vagueness undermines our ability to have definite answers to certain important questions. Though the later Wittgenstein and others would argue that vague, ordinary languages need not be changed for philosophical purposes, Frege argued

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that such everyday languages were not up to the task of providing a full understanding of the foundations of mathematics and science. Frege did not eschew natural language altogether, however. He implored us to build on the work of others by *making* certain claims analytic by stipulation, when it is fruitful to do so.

Rickets says of Frege, Carnap, and Quine that “the history of philosophy offers no more distinguished lineage of teachers and students, except perhaps for Socrates, Plato, and Aristotle” (2004, p. 181). We ought not to take this too seriously, since even someone keen on analyticity must admit that the “perhaps” ought to have been omitted, and some third triumvirate ought to have been given for comparison (e.g., Russell, Wittgenstein, Anscombe). Nevertheless, Rickets’ claim draws our attention to the striking facts that (1) Carnap studied under Frege for a time, and Quine studied under Carnap for a time, and (2) there is an interesting parallel between Socrates, Plato, and Aristotle, on one hand, and Frege, Carnap, and Quine, on the other—in both cases, the second of the trio tended to develop views along the lines of the first, and the third made a drastic break from the views of the second.

Carnap can be seen as trying to implement some of Frege’s views on analyticity, especially with reference to scientific languages. Carnap introduced the utmost rigor in formulating language systems and explicating vague concepts in order to show scientists an *ideal* of rigorous science. His methodology has not been widely adopted however, and the question remains of how, or even whether, it would work if put into widespread practice. Quine was more concerned with the *actual* practice of scientists, given their own scientific standards. He endeavored to take a scientific theory of evidence seriously (as ultimately based on stimulations of sensory receptors), and he concluded that if we do this, there seems to be serious limitations on the use, or understanding of formerly sacrosanct concepts, such as meanings, references, etc. Though Quine appears to have made a drastic concession in the analyticity debate by giving an explication of “analytic,” the explication leaves us with an anodyne notion. Finally, since Holism was the centerpiece of Quine’s mature philosophy, any defender of Quine on analyticity, or most of his other theses, will have the daunting task of rebutting Sober’s (2000) arguments against Holism.

Williamson’s arguments on analyticity are part of a bigger metaphilosophical (or, as Williamson prefers, “philosophy of philosophy”) project. His broad conclusion is that philosophers can ply their trade by reasoning *from* (not to) knowledge—either reasoning from
knowledge of what we are perceiving via the senses (“online”) to what actually is the case, or imagining (“offline”) how the world might be, or might have been—i.e., evaluating counterfactuals—based on our knowledge of how the world actually is. Since he argues that attempts to utilize analyticity in such cases of philosophical reasoning fails to contribute anything in the process, “[t]he overall upshot is that philosophical truths are analytic at most in senses too weak to be of much explanatory value or to justify conceiving contemporary philosophy in terms of a linguistic or conceptual turn” (Williamson, 2007, p. 53). Regardless of whether or not Williamson is correct in saying that we reason from, rather than to, knowledge, I have argued that he failed to show, at least on the basis of disquotational principles and compositional semantics, that we cannot profitably reason from semantics to truth. Unless such an argument is forthcoming, analyticity ought to retain its central status in philosophy.

Much remains to be said about the relation of analyticity to the history of philosophy. No attempt has been made here to investigate possible relationships between analyticity and the works of ancient philosophers. Some of the fragments of Parmenides and Heraclitus, for example, have the ring of analyticity, and there is a case to be made that it was in the background of some of Aristotle’s work. When it comes to the medieval period, Brown (1997) argues that William of Ockham’s theory of semantics contains the rudiments of a non-containment notion of analyticity, and if I am right that analyticity is consistent with Descartes’s ontological argument, we may very well find it to be consistent with Anselm’s too. Though I have discussed the modern period, much more could be said about Kant’s work, and I have entirely omitted examination of other noteworthy philosophers due to considerations of economy—for example, Bolzano and C. I. Lewis. Recently, investigations have been undertaken into the relation of analyticity to the views of some early 20th Century philosophers (and their time slices) not normally associated with the topic—e.g., Husserl and the later Wittgenstein. During the heyday of the Carnap-Quine debate, other philosophers published works on analyticity which

303 See Ferejohn (1981) for a discussion.
305 C. I. Lewis (1923), C. I. Lewis (1929, esp. Ch. VII-IX and Appendix F), C. I. Lewis (1943), and C. I. Lewis (1946). See Peach (1952), Pasch (1958, esp. Ch. I, Sec. 3), Rosenthal (1968), Gram (1971), and Bonjour (1998, esp. Ch. 2) for discussions.
306 See Haddock (2008) for a discussion.
307 See Glock (2010) for a discussion.
have been, perhaps, unduly neglected—e.g., Waismann,\textsuperscript{308} White,\textsuperscript{309} and especially Pap.\textsuperscript{310} In the contemporary period, I have simply focused on Williamson, but this should not be taken as an indication that there have not been other important contemporary works on analyticity. On the contrary, the recent popularity of semantic externalism and its offshoots (e.g., two-dimensionality) prompts the question of where, or even if, analyticity fits in with such theories.\textsuperscript{311} Finally, in recent years there have been interdisciplinary efforts relevant to analyticity, worthy of serious consideration—e.g., by philosophers acutely aware of cutting-edge work in linguistics\textsuperscript{312} and cognitive science.\textsuperscript{313} These facts, combined with the overlap between analyticity and the history of philosophy discussed in this dissertation, clearly show that analyticity has the potential to be as important a concept in philosophy today, as it has ever been.

\textsuperscript{308} Waismann published a series of papers under the title “Analytic-Synthetic” in \textit{Analysis} (1949, 1950, 1951a, 1951b, 1952, 1953) which was, unfortunately, never finished. See Lake (1952), Winch (1953), Walsh (1954), and Baylis (1956) for discussions.

\textsuperscript{309} White (1950/1970), White (1951), and White (1956, esp. pp. 113-163). White’s views are briefly discussed above on p. 89. See Hempel (1951), Matres (1953), Taylor (1954), Watkins (1957), Herburt (1959), Kemeny (1963), and McGee (1963) for additional discussions.

\textsuperscript{310} Pap (1958/1966), and Pap’s earlier articles listed in that book’s bibliography. Though one occasionally sees a reference to Pap crop up (e.g., as in Sober [2000]), his book has not received the attention that it deserves.

\textsuperscript{311} The move towards semantic externalism was initiated by Kripke and Putnam. While Kripke has had little to say about analyticity in print (see Kripke [1972/1980, pp. 39, 122-123 fn.]), Putnam has written about it repeatedly for over fifty years (some of the most notable works on analyticity being Putnam [1956], Putnam [1962a], Putnam [1962b], Putnam [1976], and Putnam [1979]). Zalta (1988), Wikforss (2003), and Zvolensky (2006) have explored Kripke’s relation to analyticity, and Putnam’s relation has been investigated in Shirley (1973), Yu (1984), Pigden (1987), Nimtz (2003), Tsou (2010), and Öberg (2011). For general discussions, see Salmon (1993), Rey (2003/2008/2010, esp. Sec. 4.2), and Strawson (forthcoming). See fn. 2 above, for references to some relevant work from the last five years.

\textsuperscript{312} While Chomsky occasionally crops up in discussions of analyticity (e.g., Horwich [1992]), Katz was, by far, the most tenacious defender of the importance of linguistics in this context. I discussed Katz (1986) in Sec. 2.2 above, but my focus was restricted to only the portion of the book on the connection between Descartes and analyticity; the rest of Katz (1986) contains significant discussions of analyticity regardless of Descartes. Some of his other important works involving analyticity are Katz (1964), Katz (1965), Katz (1966, esp. Ch. 5), Katz (1967), Katz (1968), Katz (1972, esp. Chs. 4, 6), Katz (1974), Katz (1990), and Katz (1997). See Wilson (1965), Staal (1966), Quine (1967), Wilson (1967), Linsky (1970), Nordenstam (1972, esp. Ch. 5), Harman (1976), Greenwood (1990), and Cohen (2000) for discussions.

\textsuperscript{313} Fodor, for example, has worked extensively at the intersection of philosophy and cognitive science, and has discussed analyticity in the process (Fodor [1987, esp. Ch. 3], Fodor [1990/1994, esp. Introduction], Fodor and Lepore [1991], Fodor [1998, esp. Ch. 4], Fodor and Lepore [2006], and Fodor [2008, esp. Chs. 2, 3]). See Callaway (1992/2008), Block (1993), Wright (2002), Margolis and Laurence (2003), and Rives (2009) for discussions.
REFERENCES


Descartes, R. (1641/1984). Meditations on First Philosophy, and Objections and Replies (First through Sixth). In The Philosophical Writings of Descartes, Volume II


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BIOGRAPHICAL SKETCH

John Carpenter was born in 1980 in West Milwaukee, Wisconsin, and his elementary and secondary education was completed at schools in the Milwaukee area. From 1998-2002, he was an undergraduate student at the University of Wisconsin-Madison, double majoring in Philosophy and Mathematics, and receiving a Summer Honors Apprenticeship, a Hilldale Fellowship, and a BS with Honors in the Liberal Arts. Prior to entering graduate school, he first worked as a software programmer and then as a data analyst. From 2006-2012, he was a graduate student and teaching assistant at The Florida State University in the Department of Philosophy. He received an MA from that department in 2008 and a PhD in 2012, teaching five courses, and assisting with 13 others at FSU in that time.