

Against a priori knowledge of non-trivial truths

by

Carin Robinson

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Analytic propositions simply record our determination to use words in a certain fashion. We cannot deny them without infringing on the conventions which are presupposed by our very denial, and so falling into self-contradiction. And this is the sole ground of their necessity. As Wittgenstein puts it, our justification for holding that the world would not conceivably disobey the laws of logic is simply that we could not say of an unlogical world how it would look. And just as the validity of a logical proposition is independent of the nature of the external world; so is it independent of the nature of our minds.

A. J. Ayer, *Necessary Truth*

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Abstract

This is a thesis in support of the conceptual yoking of analytic truth to a priori knowledge. My approach is a semantic one; the primary subject matter throughout the thesis is linguistic objects, such as propositions or sentences. I evaluate arguments, and also forward my own, about how such linguistic objects' truth is determined, how their meaning is fixed and how we, respectively, know the conditions under which their truth and meaning are obtained. The strategy is to make explicit what is *distinctive* about analytic truths. The objective is to show that truths, known a priori, are *trivial* in a highly circumscribed way.

My arguments are premised on a language-relative account of analytic truth. The language relative account which underwrites much of what I do has two central tenets: 1. Conventionalism about truth and, 2. Non-factualism about meaning. I argue that one decisive way of establishing conventionalism and non-factualism is to prioritise epistemological questions. Once it is established that some truths are not known empirically an account of truth must follow which precludes factual truths being known non-empirically.

The function of Part 1 is, chiefly, to render Carnap's language-relative account of analytic truth. I do not offer arguments in support of Carnap at this stage, but throughout Parts 2 and 3, by looking at more current literature on a priori knowledge and analytic truth, it becomes quickly evident that I take Carnap to be correct, and why. In order to illustrate the extent to which Carnap's account is conventionalist and non-factualist I pose his arguments against those of his predecessors, Kant and Frege. Part 1 is a *lightly* retrospective background to the concepts of 'analytic' and 'a priori'. The strategy therein is more mercenary than exegetical: I select the parts from Kant and Frege most relevant to Carnap's eventual reaction to them. Hereby I give the reasons why Carnap foregoes a factual and objective basis for logical truth. The upshot of this is an account of analytic truth (i.e. logical truth, to him) which ensures its trivial nature.

In opposition to accounts of a priori knowledge, which describe it as knowledge gained from rational apprehension, I argue that it is either knowledge from logical deduction or knowledge of stipulations. I therefore reject, in Part 2, three epistemologies for knowing linguistic conventions (e.g. implicit definitions): 1. intuition, 2. inferential a priori knowledge and, 3. a posteriori knowledge. At base, all three epistemologies are rejected because they are incompatible with conventionalism and non-

factualism. I argue this point by signalling that such accounts of knowledge yield unsubstantiated second-order claims and/or they render the relevant linguistic conventions epistemically arrogant. For a convention to be arrogant it must be stipulated to be true. The stipulation is then considered arrogant when its meaning cannot be fixed, and its truth cannot be determined without empirical 'work'.

Once a working explication of 'a priori' has been given, partially in Part 1 (as inferential) and then in Part 2 (as non-inferential) I look, in Part 3, at an apriorist account of analytic truth, which, I argue, renders analytic truth non-trivial. The particular subject matter here is the implicit definitions of logical terms. The opposition's argument holds that logical truths are known a priori (this is part of their identification criteria) *and* that their meaning is factually based. From here it follows that analytic truth, being determined by factually based meaning, is also factual. I oppose these arguments by exposing the internal inconsistencies; that implicit definition is premised on the arbitrary stipulation of truth which is inconsistent with saying that there are facts which determine the same truth. In doing so, I endorse the standard irrealist position about implicit definition and analytic truth (along with the "early friends of implicit definition" such as Wittgenstein and Carnap).

What is it that I am trying to get at by doing all of the abovementioned? Here is a very abstracted explanation. The unmitigated realism of the rationalists of old, e.g. Plato, Descartes, Kant, have stoically borne the brunt of the allegation of yielding 'synthetic a priori' claims. The anti-rationalist phase of this accusation I am most interested in is that forwarded by the semantically driven empiricism of the early 20th century. It is here that the charge of the 'synthetic a priori' really takes hold. Since then new methods and accusatory terms are employed by, chiefly, non-realist positions. I plan to give these proper attention in due course. However, it seems to me that the reframing of the debate in these new terms has also created the illusion that current philosophical realism, whether naturalistic realism, realism in science, realism in logic and mathematics, is somehow not guilty of the same epistemological and semantic charges levelled against Plato, Descartes and Kant. It is of interest to me that in, particularly, current analytic philosophy¹ (given its rationale) realism in many areas seems to escape the

¹ What analytic philosophy is, is of course not immediately obvious. That it is a phrase used by many philosophers cannot be questioned, however. When I use it I mean "A philosophical trend in the twentieth century which sees analysis as the proper method to resolve definitively the problems that are within the ken of philosophy" (Mautner, 2005, pp. 22 – 23). In addition, and to me even more important, to this description of the *method* employed by analytic philosophers, there is also the underlying Wittgenstein-logical positivist motive which inspired the analytic program, through Russell and Moore and so forth. This analytic program is the one set against the speculative philosophy (i.e. metaphysics) associated with German idealism and, more subtly, the speculative philosophy associated with realist or non-conventionalist views of logic, mathematics and language.

accusation of yielding synthetic priori claims. Yet yielding synthetic a priori claims is something which realism so easily falls prey to. Perhaps this is a function of the fact that the phrase, 'synthetic a priori', used as an allegation, is now outmoded. This thesis is nothing other than an indictment of metaphysics, or speculative philosophy (this being the crime), brought against a specific selection of realist arguments. I, therefore, ask of my reader to see my explicit, and perhaps outmoded, charge of the 'synthetic a priori' levelled against respective theorists as an attempt to draw a direct comparison with the speculative metaphysics so many analytic philosophers now love to hate. I think the phrase 'synthetic a priori' still does a lot of work in this regard, precisely because so many current theorists wrongly think they are immune to this charge.

Consequently, I shall say much about what is *not* permitted. Such is, I suppose, the nature of arguing 'against' something. I'll argue that it is not permitted to be a factualist about logical principles and say that they are known a priori. I'll argue that it is not permitted to say linguistic conventions are a posteriori, when there is a complete failure in locating such a posteriori conventions. Both such philosophical claims are candidates for the synthetic a priori, for unmitigated rationalism. But on the positive side, we now have these two assets: Firstly, I do not ask us to abandon any of the linguistic practises discussed; merely to adopt the correct attitude towards them. For instance, where we use the laws of logic, let us remember that there are no known/knowable facts about logic. These laws are therefore, to the best of our knowledge, conventions not dissimilar to the rules of a game. And, secondly, once we pass sentence on knowing, a priori, anything but trivial truths we shall have at our disposal the sharpest of philosophical tools. A tool which can only proffer a better brand of empiricism.

Introduction

The view that a sharp line can be drawn between analytic and synthetic sentences has been called one of the “two dogmas of empiricism.” Whether or not the epithet is justified, there can be no denying that Carnap’s development of the analytic-synthetic distinction has had a powerful influence on empiricist philosophers, providing in the minds of many, a fundamental frame of reference for the organization of knowledge and thought. (Bohnert, 1963, p. 407)

To Carnap’s credit, never before had we been told so clearly that there is a large, essential element in all knowledge that is easily mistaken for the ordinary factual claim but that is actually a tool for the constitution of representational apparatus; that these apparently factual claims are “definitions in disguise”; and what they define is a linguistic framework. (Coffa, 1991, p. 325)

To be against the a priori knowledge of non-trivial truths is to be against knowing anything about the world without that knowledge having been acquired via our senses. Ayer puts the same claim as a maxim of empiricism; “...every factual proposition must refer to sense-experience” (Ayer, 1969, p. 27).

Establishing this position requires explicative as well as argumentative work. The purpose of the explicative work is to establish what is meant by ‘a priori’ and ‘non-trivial’. The purpose of the argumentative work is to establish the reasons why we ought to take this claim seriously given what we understand by a priori and non-trivial. The argumentative work consists of a principled account of why claims about knowing non-trivial truths a priori should be rejected. The arguments will, consequently, be conditional upon the meanings attributed to a priori and non-trivial. It is for this reason that the explications precede the arguments. Providing an explication, however, demands sensitivity to the rich and nuanced history of these concepts, as well as related concepts.

Whether a truth is trivial or non-trivial corresponds to whether it is ‘analytic’ or ‘synthetic’. Analytic and synthetic are semantic categories; they signify two ways in which sentences or propositions are true.² Analytically true sentences are trivially true and synthetically true sentences are non-trivially true. I use

² I use ‘sentence’ unless I am making specific reference to a theorist, who uses another term, such as ‘proposition’, ‘claim’, ‘judgment’, ‘statement’ or ‘assertion’.

analytic and synthetic throughout my explications and arguments. The use of the term non-trivial, and by implication trivial, in the title of the thesis is an attempt to be, to the greatest degree possible, technically descriptive whilst being, at least initially, philosophically neutral. Analytic and synthetic are, after all, terms which have been, if not deeply questioned, completely rejected in recent post-positivist (i.e. post-Vienna circle) history (Coffa, 1991). Even though it is not the chief aim of this thesis to defend the analytic-synthetic distinction *per se*, arguing that non-trivial truths cannot be known a priori presupposes this distinction. In fact, the application of the thesis lies in the identification of the non-trivial nature of truths which are held to be analytic and claimed to be known a priori, as well as in the identification of the non-empirical justification of truths which are held to be non-trivial or synthetic.

A project which says something about the close conceptual relationship between the semantic terms, analytic and synthetic, and the epistemological terms, a priori and a posteriori, could easily be accused of conflating the two. Inevitably an argument which argues for an exclusive relationship between, say analytic and a priori, as this one does, might seem to suggest that these two terms can be used interchangeably. I intend to counter such an impression. Analytic and synthetic mean two ways in which a sentence might be true and a priori and a posteriori mean two ways in which the truth of a sentence might be known. The former are therefore semantic concepts and the latter epistemological. Even if the present arguments make the epistemological concept a part of the explication for the semantic concept, this does not mean the two have been mistaken for each other; it merely means that the one is part of defining the other. This is akin to saying that being a 'featherless biped' is a part of a definition for 'human being' but to not confuse, therefore, 'featherless' and 'human being'.

For the explicative part of the project I look at the conceptions of 'analytic' and 'a priori' as put forward by Kant (section 1), Frege (section 2) and Carnap (section 3). In offering this seemingly historical focus the explicative part might easily be misconstrued as being exegetical in intent. It is not. My work does not give credit to the status of these philosophers or to the magnitude nor detail of their work. Instead, my use of them is analogous to removing the oyster from the carcass of a roasted chicken to (a) show someone what it looks like and (b) clarify how it is different from the oyster found in the sea. My focus on Kant-Frege-Carnap's accounts of analytic truth and a priori knowledge is specific and specific to my goals, with no further regard for whole 'fowl' or 'ocean', which is their work in this topic. My goal is to defend the connection between 'analytic' and 'a priori' when conceived in a particular way.

I discuss Kant because it is with him, after all, where the terms 'analytic' and 'synthetic' (judgment) take hold in the lexicon of the semantic tradition of modern philosophy (Coffa, 1991). It is here that 'analytic'

and 'synthetic' are intricately connected with a priori knowledge. Kant offers us a view of analytic truth which makes it about meaning; a judgment is analytically true because the predicate concept is contained by the subject concept. His view of how we *know* such relationships of containment, however, renders these relationships subjective. This is because a priori knowledge, by his account, turns out to be nothing other than subjective rational apprehension. Kant is most useful, to me, as a precursor to Frege and it is in this capacity that I discuss him.

Frege's view of 'a priori' moves a priori knowledge out of the domain of subject based rational apprehension or intuition into logical demonstrability. It moves a priori knowledge out of something which cannot be thought of as a genuine epistemic tool, a way of delineating knowledge from that which is not knowledge, to something which has genuine theoretical applicability. Finally, with Frege, a priori knowledge is something which can be isolated and identified; it is knowledge by deduction. This means for Frege that analytic truth, which is yielded by the meanings of terms, can now be demonstrated. And because logical procedures are objective this means that meaning is objective.

It is from Frege's thoughts about analytic truth being demonstrable truth that Carnap takes his cue. And it is Carnap's view on a priori knowledge and, more importantly, his detailed account of the truths we know in this way, which is a cardinal inspiration to this thesis.

So, the development of how we are to think of a priori knowledge, from Kant to Frege, elicit a change in thought about what is known in this way; meaning and analytic truth. And these views change yet again from Frege to Carnap. Even though Carnap retains Frege's notion of a priori knowledge being knowledge derived from logical procedures, what Carnap thinks logic is differs from what Frege thinks. Logic, to Carnap, has no objective foundation. It is not absolute (Friedman, 1994). We have choices about logic, for Carnap. Therefore, Carnap foregoes the Fregean hope for objectivity of meaning and makes meaning and, therefore, analytic truth relative to specific language systems. And, for Carnap, since there are no reasons to favour one language system over another all hope for an objective, and hence absolute, language system determining all meaning is foregone too (Friedman, 1994).

But what does remain constant, through all the nuanced changes evidenced by their accounts, is that analytic truth is inextricably linked to linguistic truth (i.e. truths derived from meanings) and that a priori knowledge is inseparable from this linguistic account of analytic truth.

Indeed it looks as if a priori statements are involved with meanings even more intimately than the way in which true claims relate to what makes them true. (Coffa, 1991, p. 264)

This then concludes the explicative part of the project. I render Carnap's account of analytic truth as language relative truth.³ That I endorse its central tenets should become evident throughout my further arguments. For the rest of the project I apply his account, and some more recent accounts in the same tradition, of analytic truth to some instances of where neither 'analytic' (Part 3) nor 'a priori' (Part 2) is used consistently with the explications offered.

The argumentative part of this thesis is structured thus: We start by taking 'All a priori knowledge is knowledge of trivial truths' to mean the same as 'All a priori knowledge is knowledge of analytic truths'. Such a claim can be challenged in, at least, the following two ways: 1. The claim might, *prima facie*, be endorsed, but a particular account of analytic truth might entail that 'analytic' is not 'trivial'. This happens easily when, for instance, meaning is said to be fixed by meaning *facts*. And, 2. A particular account of knowledge, whether it be the 'wrong' sort of a priori knowledge or an inappropriate appeal to a posteriori knowledge, could result in an inadequate epistemology and/or semantic theory for a statement. This again happens easily with an intuitionist, or perhaps with an inferential a priori account of the truth and meaning of, for example, logical conventions.

If my central thesis is posed against the a priori knowledge of non-trivial truths then successfully defending it will be determined by how persuasive I am about 'a priori knowledge' either being inferential or non-inferential and what exactly this view entails. In Part 1 I consider, chiefly, the move from a priori knowledge as rational apprehension (Kant) to a priori knowledge as derived from deductive inference (Frege and Carnap). No argumentative work is executed at this stage. For instance, I do not ask, nor make a case to show either way, whether or not Frege's conception of the laws of logic as objective, can be accommodated by an account of a priori knowledge as yielded by deductive inference. I also do not ask whether Carnap's language relative account of analytic truth is fully explained by a priori knowledge being knowledge from deduction. The argumentative work regarding a priori knowledge is pursued in Part 2, rather. I set the arguments up so as to investigate whether linguistic conventions are knowable a priori and if so, how we should think of a priori knowledge; it becomes quickly clear that not any account of a priori knowledge will do. Here I argue against a priori knowledge being construed as intuition, or rational apprehension. I also argue against a particular construal of

³ So as not to detract from the purpose of a general introduction to a thesis, which is to give the reader a good overall view of what the forthcoming arguments are and how the author makes them, I have not included any of the details about Carnap's changes from his syntactic to semantic phase. I have thus not said anything here about which are important to this project and what my opinions are about the value of these respective phases. All this will be clearer on reading my synopsis of his account of analytic truth in Part 1, section 3.

inferential a priori knowledge. And then, also perhaps a slight digression from my arguments about what ‘a priori’ means if it is to be fit for knowing linguistic conventions (i.e. analytic truths of a particular type), I look in section 3.3 of Part 2 at Millikan’s naturalist account of knowing linguistic conventions. Hers is an a posteriorist epistemology of linguistic conventions. This is relevant to what my aims for Part 2, and the thesis as a whole, are because to defend an a posteriorist account of meaning (under specific conditions) is to miss what is at the heart of the relationship between analytic truth and a priori knowledge. More importantly, to claim that knowledge of linguistic conventions (by far the most of them) is a posteriori is to force a view about analytic truth that is inconsistent with what is here being argued.

To illustrate my arguments for how trivial analytic truths must be, I look, in Part 3, at Boghossian’s (2006) paper, titled ‘Analyticity’. In his paper Boghossian argues that the meanings of logical constants are implicitly defined and that the sentences expressing logical principles are analytic. He claims to endorse an improved version of Frege-analyticity, arguing in favour of objective meaning facts, or in favour of the existence of Frege-analyticities. This makes Boghossian a meaning realist. This he also expressly argues for. For him, the success of his account of analytic truth depends on the existence of facts⁴ about meaning which are mind-independent. But, I object, if there are such facts about meaning, then analytic sentences are about “the world” no matter how you look at it. Yet Boghossian explicitly makes a case for all truth (including analytic truth) being a matter of correspondence to “the facts” or “the world” (Boghossian, 2006). If analytic sentences are about the world then they are not trivial anymore; they have “factual content” (Carnap, 1963, pp. 56 - 60; 1995) or are “substantial” (Hale, 2006). To then hold that they are justified without appeal to our senses, in other words, a priori, is to challenge the primary thesis being defended here.

Here are some clarifications for how ‘fact’ is used. The distinctions I draw between types of ‘facts’ are standard to the debate about factualism about meaning. However, the terminology introduced below is not standard to all semantic theories, since theories often are forwarded whilst embedded in their own lexicons. My intention is to continue using the terminology introduced here, in the manner suggested, throughout the rest of the written thesis - unless I specify otherwise. In such cases I shall make this explicit.

⁴ I discuss shortly, in this introduction, some of the ambiguities pertaining to the use of the word ‘fact’. For now it works to understand ‘fact’ in the broadest sense, as a part of the world, material or not, constructed by us or not, which obtains.

I distinguish between two types of meaning facts: language-independent and language-dependent (Boghossian, 2006, p. 336). Such facts can be anything from the facts about the relationships between meanings (e.g. containment, entailment or consistency) or might be facts about what a term means or stands for or names in “the world”. Either way, a meaning fact, whether language-independent or dependent, is the state of affairs which determine the meaning of terms and whole sentences.

When meaning facts are language-dependent they are constructed or are parts of constructed systems such as linguistic frameworks. The different axiomatisations of different parts of physical science are called linguistic frameworks.⁵ The assumption that linguistic frameworks, like parts of physical science, are constructed, made up or “invented” (Hale and Wright, 2003) is premised on the fact that there seems to be no knowable objective (Frege’s ‘objective’) basis for these linguistic frameworks. On such an account of meaning there can consequently never be true or false linguistic frameworks, measuring truly or falsely up against some sort of objective or mind-independent reality. When meaning facts are invented we say they are language-dependent meaning facts. The theoretical positions which hold that meaning facts are language-dependent in this sense are called ‘non-factualist’ (Hale, 2006; Boghossian, 2006). This might lead to some confusion, since non-factualism does involve the postulation of language-dependent meaning facts. I shall draw attention to this at any subsequent points of ambiguity. In the meantime, ‘non-factualism’ entails an endorsement of language-dependent meaning facts, but a rejection of language-independent meaning facts (hence ‘non-factualism’).

An example of a meaning fact which belongs to one of the linguistic frameworks of physical science is the stipulation for how the theoretical term, ‘electron’, is used. The meaning of ‘electron’ is determined by language-dependent meaning facts *when* it is determined by, for instance, the stipulations for how we use other related terms like ‘atom’, ‘valency’ and ‘charge’, which are used to help define ‘atom’. Let us call these stipulations for use, definitions. There are many different types of definitions, of course, but for now we are speaking about recursive definitions (Bohnert, 1963). Recursive definitions are definitions which are constructed by more definitions, sometimes resulting in what seems like a circular explication of the definiendum. It is not required of a discursive definition to be ostensive as well (making direct reference to the world). In other words, there are no extra-linguistic *matters of fact* which weigh in on how the meaning of the definiendum is fixed.

⁵ This is discussed in detail in Part 1, section 3, where I discuss Carnap’s account of analytic truth.

So, if the meaning of the term electron is determined by other definitions then the meaning of 'electron' is determined from within a linguistic context. The relevant meaning facts are therefore language-dependent. Such definitions might be implicit or explicit.⁶ But, either way, they must be the sorts of definitions which can determine meaning without appeal to any additional empirical work as when needed to establish referents or extensions (Hale and Wright, 2003). Any sentences of which the meaning has been determined by language-dependent meaning facts are said to be trivially true, because their truth is known entirely by the use of more definitions, simply constraining the use of terms and other related terms. This, we shall see, is what Carnap (1963) means by analytic truth or logical truth. It is also for this reason that Carnap holds analytically true sentences are non-factual.

Language-independent meaning *facts* are the referents or extensions, of the definiendum, occurring in the extra-linguistic world (i.e. the world which language describes). There are two types of language-independent meaning facts: 1. They can be the empirical referents or extensions of the terms in question. So in the case of 'electron' it will be the actual object (i.e. an electron as existing in the natural world of which it is a part) which serves to determine the meaning of 'electron'. Or, 2. Language-independent meaning facts might be 'pre-existent' or 'antecedent' (antecedent to the stipulation or of the truth of a sentence and the construction of meanings of its terms) referents or extensions (Hale and Wright, 2003). Despite this they are nevertheless not empirically detectable even though they are real. They are also said to be "mind-independent" (Boghossian, 2006). Such meaning facts are best described as Platonic (Dummett, 2006). When the truth and meaning of terms and sentences are determined by 'Platonic' meaning facts the terms are still taken to refer to them, even if the referents are not empirical objects such as electrons. Both types of language independent meaning facts are thought of as objective in some important sense of the word (Dummett, 2006, pp. 8 - 11). The first as empirically objective and the second as Platonically (i.e. Fregean) objective. Postulating language independent meaning facts, whether empirical referents or referents comprised of some sort of immaterial Platonic entity, is consistent with a realist construal of meaning.⁷

It might occur to some of my readers that claims about distinctions between analytic and synthetic sentences and a priori and a posteriori knowledge are non-trivial claims. After all, are they not claims about the way the world is? And, given the fact that no such claims are empirically justifiable by our

⁶ See Part 2, section 2 and Part 3's introduction for a detailed explanation of the distinction between the two.

⁷ I discuss Boghossian's (2006) account of meaning realism in Part 3.

present understanding of these terms (I happily concede this point to Quine) has this project not fallen on its own sword? No, it has not. I take myself to have worked in the semantic tradition; one which has as a central plank that philosophical problems are due to “semantic neglect” (Coffa, 1991, p. 2). This means that, since I have focused exclusively on linguistic entities such as the definitions for ‘analytic’ and a priori’, I take myself to have achieved nothing other than offering reasons for adopting some specified linguistic conventions about the use of these terms. I do not propose to know anything about how our nervous systems and brains acquire knowledge, nor do I think I have isolated real, empirically recognisable features by which to distinguish analytic from synthetic sentences. For this my research would have had to be of a different type. This thesis forwards what Hale would call “metalinguistic attributions of truth, falsity, correctness and incorrectness” (Hale, 2006, p. 378), or “metalinguistic tools” (Ebbs, 2011) for philosophers. We are free to adopt these tools or not. Short of offering reasons for why they are good tools for the “organization of our knowledge and thought” (Bohnert, 1963) there are no further facts which can support our choice to either adopt them or reject them.

As I stressed above, Carnap’s account of logical truth is motivated by his desire to offer scientists and other inquirers metalinguistic tools and concepts they can use to lay down explicit linguistic rules for conducting their inquiries, and thereby to avoid what he regarded as fruitless controversies—the sort that stem from a lack of clear, shared rules for evaluating assertions. (Ebbs, 2011, p. 214)

In this sense I take myself to have made analytically true claims; claims without factual content. I have only offered a priori justification in support of these claims. If I should be successful in my arguments for why this is a good framework to adopt then all that is asked for is that we “continue to speak that language”. Frameworks such as these only forward necessary truth from within, or relative to, the framework. In other words, should it be decided that to distinguish between ‘analytic’ and ‘synthetic’ in the way suggested is useful for some particular reason (Carnap would have suggested that it useful for avoiding metaphysics) then using those metalinguistic ascriptions commit us in some way to the framework as a whole. But it might be decided, as Quine does, that the distinctions are not useful and the whole framework be rejected. In such a case, viewed from without the framework, there are no commitments to the distinctions and relationships I hope to defend. Knowledge of the framework, including all its metalinguistic tools, is a priori, because it is knowledge

of linguistic stipulations only. Maddy here describes what metalinguistic tools are, and the spirit in which we should receive them:

...but once we have adopted the winning linguistic framework and begun to work within it, as long as we continue to speak that language, the framework principles are analytic and unrevisable. In other words, a statement that's optional and revisable when viewed at the higher level is necessary and unrevisable when viewed from a lower level, and thus, robustly a priori at that lower level. (Maddy, 2000, p. 112)

I offer reasons for why the relationship between analytic truth and a priori knowledge is philosophically compelling by showing what might happen should it not be taken seriously. In this sense, the tacit goal of this project is, of course, to argue against synthetic a priori truths. Such a goal is not new to the ambits of philosophy. Historically the motivation for arguing against synthetic a priori truths was to argue against metaphysical speculation; speculation yielding factual claims which have been justified by the range of a priori procedures available to philosophers. I have designed this project to rather look at the upshot of holding that a priori knowledge is only knowledge of trivial truths. I do this by identifying the epistemological and semantic problems arising from philosophical accounts which permit the a priori, or non-empirical, knowledge of non-trivial truths. The importance of staying true to the epistemological principle advocated by this thesis is that it offers, in my view and therefore according to my arguments, a very effective (if, arguably, not the only) way in which one can resist the occurrence of synthetic a priori truths.

Some of the inspiration for this thesis was born from the naïve offence a new post graduate student takes when she discovers that there is so much, within present philosophy, still resembling the synthetic a priori. She finds evidence everywhere of what she believes is a deep epistemological failing. She finds it in current meta-ethical deliberation, in political theory as well as in many areas of metaphysics. She is surprised that, despite the best efforts of her heroes and the consequent linguistic turn much of philosophy has taken, philosophers still make claims which they hold are informative yet have as their justification only a range of rational procedures. She even finds evidence of it in current empiricist philosophy, such as the various incarnations of Quinean naturalism. Her expressions of horror, when speaking to her colleagues, are often met by surprise and 'helpful' reminders that the logical positivist programme is a fallen thesis. The logical positivists have been "hung by their own petard", are "fallen on their own sword". The better type of empiricism, these colleagues suggest, is a naturalised semantics, a naturalised epistemology, a naturalised metaphysics and so on. Along with this advice there seems to be an assumption; that

once some form of naturalistic empiricism is adopted, there can, in fact, *be no chance* of yielding synthetic a priori claims. Philosophy, if it adopts a type of naturalism, has finally been exorcised of the synthetic a priori. And this, they claim, is because in this post-Quinean world philosophy has been exorcised of the a priori, altogether. Something the positivists failed to do.

She remains unconvinced.

Firstly, like many philosophical schools of thought, logical positivism now has more sophisticated forms. And then, secondly, she finds that other forms of empiricism have very evidently not got rid of the *a priori*. It has not even got rid of the *synthetic a priori*. The fact that the lexicon of current epistemology, philosophy of science, semantics and philosophy of language rarely includes the phrase ‘synthetic a priori’ – such as previously used as a one strike accusation of having succumbed to the dreaded idealism of speculative German philosophy and the likes – has had the convenient consequence that everyone has forgotten that the synthetic a priori is still lurking. It lurks in even seemingly respectable places.

My belief in the correctness of Carnap’s position (in the areas relevant to this thesis) does not allow for me to depart very much from him. To do so, as an attempt at originality, would be disingenuous and (hopefully) noticed by any astute reader. Furthermore, I cannot imagine *how* I would even begin to depart from his position regarding analytic truth and a priori knowledge. However, Carnap has not engaged philosophically for nearly fifty years now. The terrain has changed enormously in some regards. New terms are employed. New strategies have been devised. This thesis subscribes to many of these and has completely immersed itself in this debate. This is evidenced where the arguments below are closely aligned with the current representatives of logical positivism I have chosen to use; Crispin Wright and Bob Hale.

And it is at the intersection of where some parts of old school logical positivism leaves off and new forms take hold that this thesis is most exertive. This, however, is not a temporal intersection, but a lexical intersection. I think I have found my more idiosyncratic philosophical instincts take hold where I have immersed myself in current debates and found that, despite the new lexicons now including terms such as ‘minimal truth’, ‘epistemic arrogance’, ‘anti-realist truth conditions’, ‘tacit knowledge’, ‘second philosophy’, ‘manifestation’ and ‘acquisition’, there is in effect still an ongoing battle against, what seem to me to be, the synthetic a priori. A battle against supposedly non-trivial (factual) claims being justified a priori. It is perhaps in bringing this to light more explicitly than is usually the case,

where I hope to make a contribution to the current discourses in epistemology and philosophy of language. I hope to lay a charge of speculative philosophy, of metaphysics, where presently differently worded accusations are used.

So, it is my aim to engage the current face of philosophy and to show that there is an old problem still unresolved. Perhaps, my contribution can be described as a picking up of a gauntlet. But not a gauntlet which has by any means been forsaken, as is evidenced at least in the anti-realist semantics of Dummett and his followers. It now simply has a new face – and a very impressive one at that. But picking up an old gauntlet, and bringing it into the current race. A place where, I hope to show, it in fact fits very well.

But why not just stay true to the current lexicons then, my reader might wonder? In answer: I have also done that. I find the current lexicons and their surrounding arguments fascinating and wonderfully challenging. But it is my opinion that that one strike accusation, the accusation of the synthetic *a priori*, is still forcefully charged. This is evidenced by the relentless attempts made by the philosophers I am interested in exposing in this thesis to explicitly – nearly desperately – disassociate their positions from Kantian idealism and various forms of undesirable rationalism. But I am also interested in picking up the logical positivists' gauntlet because of their discredited campaign. Many of the theorists I have read over the past years are keen to remind us why they failed. Yet, certain aspects of the Carnap-Quine debate are thankfully still alive and well. Much of this I have included in this thesis and much has been left out.⁸

⁸ One of the areas of interests where I have spent a lot of time reading and writing for this thesis has been conventions in science. It has been of great interest to me, and seems to me highly relevant to my chosen topic, that there are some theorists who regard certain parts of science to be conventional (Ebbs, 2011; Stump, 2003). But even more specifically, they regard the conventional parts of science to be *a priori and analytic*. For them such conventions have the function of definitions within scientific theory.

Stump (2003), for one, regards Carnap's account of conventions in science being analytic as mistaken, because this would render them trivial. And this is, indeed, what Carnap maintains. Conventions being trivial or not is then what is at the heart of the debate between Carnapian and Quinean conventionalists. Quinean 'conventionalists' hold that these conventions have empirical significance and are genuinely informative. In other words, they express substantial information about empirical reality. For some theorists the problem of treating statements in science as trivial, acting as purely linguistic conventions, is compounded by the fact that in actual scientific practice the purportedly distinct 'hypotheses' and 'conventions' work closely alongside each other in physical theory; sometimes to such an extent that one cannot really tell them apart in a scientifically important manner (Maddy, 2000; 2007). To isolate an example of a convention of the trivial or analytic kind is, therefore, not easy.

Had I the opportunity (in terms of space) to include the work I have done in this area in this thesis my reader would have seen an argument for an *epistemic* account of conventions (not dissimilar to Frege's epistemic account for

But, to counter synthetic a priori truths is, of course, not important to everyone. Indeed, there are examples of very elegant and compelling arguments being overtly made in favour of it (Zelaniec, 1996). But in directing my arguments at such defences of it, or perhaps even just at some more obvious examples of metaphysics, I would have lost what is most striking about most of the arguments I engage in Parts 2 and 3; not the accounts of inferential a priori knowledge, a posteriori knowledge (Part 2) nor of the account of analytic truth (Part 3) are patently arguments in favour of the synthetic a priori. Incidences of the a priori (non-empirical) knowledge of non-trivial truths are, to me, most provocative where they appear with seemingly as little self-knowledge as Shakespeare's Brutus.

After a précis of Kant, Frege and Carnap's accounts of analytic truth, with some mention of their notions of how a priori is related to this I argue, in Part 2, what the outcomes are for having justified propositions a priori. This part offers a more detailed background to a priori knowledge and the ambiguities and problems arising from trying to form a coherent concept of it.

In an effort to achieve this I investigate and reject three epistemological theories about linguistic conventions; intuitionism, a posteriorism and one advocating inferentially a priori knowledge of conventions. I then argue that the non-inferential a priori justification of linguistic conventions means that they must be taken to be non-factual. This part draws attention to the very important distinction between inferential and non-inferential a priori knowledge. Given that 'the a priori' is knowledge characterised largely by logical procedures in Part 1, it could easily be accepted that knowledge we gain from inferential procedures is the *only* type which count as a priori. But there is also a need for offering an epistemology for the meaning postulates and definitions which are not necessarily, but might also be, the products of inferential or deductive processes. There are definitions which are axiomatic to language systems. What epistemology does one forward for these and what does it mean for their semantic status? Answering this question is the task of Part 2.

analytic truth). This means that scientific conventions are identified based on the type of (a priori or non-empirical) justification scientific claims or statements have been given, for inclusion into scientific theory. My argument concludes, roughly, that a convention is a statement which has become part of a scientific theory (e.g. physical theory) on non-observational or non-experimental grounds. Thus, on *a priori* grounds (Wright, 1987). The corollary then is; had the same statements been accepted on a posteriori grounds they would not count as a convention in the trivial sense.

It is with some regret that I omit this part of my research from this work. But it is my full intention to use the research I have done already and to continue with this work in the near future.

What is achieved in Part 2 has a bearing on the success of the arguments made in Part 3. In Part 3 I engage Boghossian's (2006) arguments in support of factualism about the meaning and non-conventionalism about the truth of logical principles, whilst saying that they are a priori. I argue with Hale (2006) against Boghossian.

The latter two focal points, I believe, illustrate that the a priori justification of non-trivial truths can happen anywhere; within an ostensibly innocuous semantic theory in favour of the analyticity of logic (Part 3) as well as in ill-conceived accounts of a priori and a posteriori knowledge of linguistic conventions (Part 2).

Part 1: From facts to constructs: Kant, Frege and Carnap

Part 1: Introduction

Let us start with a broad definition for analytic truth: Analytic truth is the way in which a sentence is true when its truth is determined by the meanings of its constituent terms. This immediately makes explicit the relationship between analytic truth and meaning. However, this definition is only useful to us if we disambiguate, at least, ‘meanings’ and ‘determined’. After all, if meaning determines analytic truth then it matters, for an exposition on analytic truth, what exactly meaning is. For instance, is the meaning of analytically true sentences determined by the sense of a term or the referent (qua Frege)?⁹ Or is it meaning as understood within an intensional or extensional context (qua Carnap)?¹⁰

Despite the need for disambiguation, it would be inappropriate to insist, at this introductory stage, that ‘meaning’ is sense, reference, intension or extension when determining the truth of some sentences. It is, after all, the purpose of Part 1 is to give a careful explication of *meaning* when pertaining to analytic truth. Part of such an explication will require an endorsement of some *specific* notion of meaning, if it, and not something else, is to have a bearing on the way in which a sentence might be true. So here is a more serviceable thesis for analytic truth. It should suffice until we have done the work required for a more comprehensive understanding of ‘meaning’ when a truth determiner for specific sorts of sentences.

Ayer, in Chapter IV of *Language, Truth and Logic*, defines the notions of analytic and synthetic truth as follows: “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”. (Miller, 1998, p. 92).

I have chosen this statement because it appeals to ‘definitions’. Definitions are central to the account of analytic truth here endorsed. But my more specific, philosophically motivated reasons for such an appeal will be apparent by the end of this chapter. To this effect, Carnap will tell us what ‘definitions’ are in section 3.3. In the meantime, based on the above thesis for analytic truth we can say, somewhat artlessly but to help with the initial reading of the introduction, that ‘meaning’, when it determines *analytic* truth, *cannot be* the sort of meaning which is related to extension or to reference. Because if it

⁹ Sense and reference is discussed in sections 2.1 and 2.2, following shortly.

¹⁰ Intension and extension are discussed in section 3.4, towards the end of this chapter.

were related to extension and/or reference (these are not the same thing, of course) then it turns out that it is “facts of experience” which make the sentence true. And this would entail, by Ayer’s thesis, that such a sentence is actually synthetic. All this, however, should become clearer over the duration of the chapter.

In this part I offer no major arguments of my own. Part 1 presents a précis of three accounts of analytic truth; Kant, Frege and Carnap’s. The goal of this part is to give some indication of how we should understand ‘analytic’ and ‘a priori’ prior to the argumentative work in Part 2 and 3. With it I endorse Carnap’s explications of ‘analytic’ and ‘a priori’. But to do so it is required that there is at least a cursory investigation into what it is that he reacted to in Kant and Frege’s accounts of analytic truth.¹¹

¹¹ I feel I should offer a reason as to why I did not do a more detailed investigation of Kripke’s contribution to the area of analytic truth. After all, did he not offer at least one very pressing challenge to the view that all necessities must be a priori? Should a champion of the view that analytic truths are *always* a priori (if they are *necessary* truths) not pay attention to Kripke? I do in fact pay some attention to Kripke (in parts to follow), and he serves as a very important device, in my conclusion, for impressing upon my reader the non-empirical nature of analytic truths, if they are to be necessary in a particular sense. But I do not pay detailed attention to his theory of necessary a posteriori truth explicated and endorsed in Part 1. The motivation for not saying more about Kripke is that I simply do not find Kripke’s position a compelling challenge to this thesis. There are two reasons for this: 1. A thesis which is intent on arguing that *when* justification is a priori, *then* truth is trivial, is not immediately threatened by an account where justification is empirical – as in Kripke’s thesis of the necessary *a posteriori*. My concern in this thesis is, first and foremost, the synthetic *a priori*. 2. In my view, Kripke’s account of ‘necessity’ forwards an alternate set of criteria for defining ‘necessity’. This means he does not accept my account of analytic truth itself, because, it seems to me, he has given ‘necessity’ a different meaning altogether. Yet there is no reason why he should not understand ‘necessity’ in a way different to me. Necessity is not a natural kind and I do not claim to have dominion of what ‘necessity’ means. However, in providing a different understanding of ‘necessity’ Kripke is not in conversation with my thesis here – nor Carnap’s thesis. This I take some time explaining in my conclusion. But there is a bit more to follow just below.

About the first point. To be of immediate and direct interest to the central worry of this thesis Kripke would have to make claims about non-trivial (factual or substantive) truths being knowable in some non-empirical manner. Such claims would be claims like ‘analytic truths, even though a priori, express meaning facts’, ‘linguistic conventions, despite the absence of recognisable empirical truth conditions, are a posteriori’ or ‘logical truths are factual, even though known intuitively (by rational apprehension)’. And these are the claims I have indeed addressed. Kripke’s famous contribution about the necessary *a posteriori* is not a claim like any of these.

About the second point. Kripke’s position terminates in a description of necessity resulting from empirical findings. It is discovered empirically that water is H₂O. And, so, ‘H₂O’ becomes part of the definition for ‘water’, or the meaning of ‘water’. There is then a necessary relationship between ‘water’ and ‘H₂O’. But, in my view, when ‘necessity’ is thus discovered, water being H₂O is in fact rather a relationship of empirical identity or empirical/factual equivalence. If Kripke wants to call this a ‘necessity’ he is welcome to. Carnap too would grant him this liberty. But it does not pose a threat to Carnap’s account of necessity because for Carnap, the term ‘necessity’ belongs to the world of stipulated and definitional truth. The very fact that the determination of ‘Water is H₂O’ is empirical means that it is not a linguistic stipulation. Even Kripke would grant this. In fact, this is his point. Kripke’s use of ‘necessity’ only seems compelling because we cannot contemplate/imagine/conceive that water is not H₂O. This, to me (and Frege and Carnap), means the necessity that some might experience when they think of

Since my thesis is aimed at giving reasons for why we cannot think of ourselves as having a priori knowledge of non-trivial truths given certain conceptualisations of ‘a priori’ and ‘non-trivial’, it is a primary goal of this part to show how truths should be thought of to make them non-trivial. It should be evident by the end of my discussion of Kant, Frege and Carnap that only Carnap’s account of analytic truth makes it trivial. There is a lot of careful argumentation on Carnap’s part that goes into ensuring the triviality of analytic truth. There is also a lot of argumentation that goes into establishing that trivial truth is the only sort of truth which is an acceptable candidate for a priori knowledge. If Carnap is convincing about this, then this will go a long way to taking seriously my arguments against Boghossian’s account of analytic truth (Part 3).

Not everyone shares the view that Carnap is interested in offering an account of the a priori. There is, for instance, a view that Carnap has very little to say about a priori knowledge.

[Carnap’s] goal was not to solve the traditional problem of how it is possible for us to have a priori knowledge, but to reject that problem, which he regarded as confused, and focus instead on specifying linguistic frameworks within which it is clear which sentences are to count as ‘L-true’ and which ones are to be evaluated only on the basis of empirical observations. (Ebbs, 2011, p. 212)

A view such as Ebbs’ (2011), holding that Carnap regards the question about a priori knowledge as “confused”, could easily be misconstrued as a complete absence of attention by Carnap to the problem of the a priori. But a reading of this claim of Ebbs should be tempered by the fact that Carnap only resisted certain *types* of philosophical conversations about a priori knowledge. Carnap’s reluctance to engage *some* questions about the a priori is simply a function of his concern about forwarding metaphysical claims; claims about what a priori knowledge *refers* to in the world as opposed how ‘a priori’ should be understood as a concept. His reluctance is directed at making factual claims about a priori knowledge and should not be confused with his genuine interest in ‘a priori’ *as a concept* which is

‘Water is H₂O’ is, in fact, a psychological necessity. But, we shall see, ‘necessity’ as explicated and endorsed in this thesis, is the sort of necessity which is determined by an identity relationship between *definitions*. But (and herein lies the nub), the identity relationship is established by rules and stipulations – making the identity between two terms logical (not psychological). This shows that the *method* of determination is an essential part of the classification of a type of truth. And, very importantly, determination comes *prior* to deciding what sort of truth we have. I follow Frege in this regard. So does Carnap. That Kripke finds ‘Water is H₂O’ a necessity, when based on an empirical observation, says at least one thing; he does not mean the same thing by ‘necessity’ as Frege or Carnap does. But this is the extent of the disagreement. Such a disagreement is not as deeply problematic, such as the epistemological and semantic ones I feel compelled to discuss in this thesis. However, Kripke is, wittingly or not, committed to his necessity *not* being a logical one, in the way Carnap (or Hume, for that matter), would say it is ‘logical’. In other words, his notion of necessity, if he also insists it is logical, then also requires a change in definition of ‘logical’. And so on and on. Kripke is simply speaking another language.

inextricably linked to the concept of 'analytic'. His vagueness is simply a function of his preference to give "formal" answers as opposed to factual ones (Coffa, 1991, p. 306). 'A priori' is, to Carnap, an important part of explicating 'analytic'. This is evident right from his earliest writing:

Wittgenstein said that "there are no true a priori propositions" [...], Carnap tirelessly denied the synthetic a priori, and Schlick went so far as to define empiricism as the rejection of synthetic a priori knowledge. In spite of all this there can be no doubt that the major contribution of Wittgenstein and Carnap's epistemologies in the early 1930s was their interpretations of all a priori knowledge, both analytic and synthetic. (Coffa, 1991, p. 259)

...to his more general, yet relentlessly held, views that justification is part of the explication of truth:

Roughly speaking, I take it that we expect analytic sentences to be true but have no content, to provide no genuine information, to hold in all possible worlds, *to be provable without evidence or at least to be true independently of fact*, and we expect a proposition designated by an analytic sentence to be necessary and one designated by the negation of an analytic sentence to be impossible. (Bohnert, 1963, p. 415) (Emphasis is mine. C.R.)

By the end of Part 1 (via my expositions of Frege and Carnap) I would have offered reasons for why analytic truth is trivial truth. In short, the 'feature' of analytic truth which ensures its triviality is that it is taken to be without any factual content. What makes a sentence non-factual, however, is not a matter which can simply be assumed or even quickly stated. Via Carnap I give a detailed characterisation of the non-factuality of analytic truths in sections 3.3.1 and 3.3.3 and 3.3.4.

But here is Coffa on Carnap's conception of logic:

For all of them the axiom of choice was, as matter of fact, either true or false. For Carnap, however, there was no fact of the matter that could make it true or false; as we shall see there isn't even a fact of the matter that could make it meaningless. [...] The slogan was still there; mathematics *was* reducible to (or indistinguishable from) "logic." But the logic in question was not *the right* logic in which Frege, Russell and Wittgenstein believed; Carnap thought that there was no such thing. (Coffa, 1991, pp. 308, 309)

And here he is on Carnap's conception of meaning:

To Carnap's credit, never before had we been told so clearly that that there is a large, essential element to all knowledge that is easily mistaken for the ordinary type of factual claim but that is actually a tool for the constitution of the representational apparatus; that these apparently factual claims are definitions in disguise; and that what they define is a linguistic framework. And we had never been told that this

framework may be chosen with a degree of freedom comparable to the one we enjoy in the case of geometry and that consequently no questions of ontology and or of justification arise. (Coffa, 1991, pp. 325, 326)

We are free to choose because there are no knowable (if there are any at all) facts, for Carnap, to justify a decision about the meanings of our terms or our definitions (which comprise our linguistic frameworks). This brings me quickly to the following point: It should, at the outset, be stated that I am fully aware of Carnap's seeming prevarications about committing to an ontology about facts about meaning (Coffa, 1991, p. 317). But this should not come as a surprise to anyone who is in sympathy with (most of) Carnap, and particularly with his avoidance of metaphysical claims, unless empirically significant. The claim I shall make about Carnap's 'non-factualism' about meaning is that it is nuanced, but not in any way subtle: His claims about meaning, and the factuality thereof, remain metaphysically neutral. His non-factualism is derived from this metaphysical neutrality; in the absence of *knowledge of* facts about meaning, our semantic theories can only imply conventionalism about meaning and avoid a requirement of meaning facts to explain our understanding of words and sentences.

But it is really only after my précis of Boghossian's account of analytic truth and my arguments against it that I would have given all my reasons for the non-factual nature of analytic truths.¹²

Carnap presents arguments for what makes 'truth' trivial. In the case of analytic truth, of course, it is the factuality of *meaning* which is at stake. And it seems to me, that nowhere does the discussion about meaning become more crucial to its relationship with truth than where it directs its attention at the factuality of meaning. For instance, if meaning is taken to be based on facts (e.g. facts about synonymy or facts about the meanings or our logical constants), then analytic sentences *must be* factual in one way or another and can, consequently, not be trivial.¹³

I have given a careful explanation of 'fact', 'factualism' and 'non-factualism' in the main introduction to this thesis. By way of a quick reminder: The facts under dispute in a discussion about meaning are 'facts about meaning' or, abbreviated, 'meaning facts'. The dispute between factualists and non-factualists is about whether our best semantic theories need to presuppose the existence of such meaning facts. It seems to me that there often arises the following impediment to keeping in focus what is at the heart of the dispute: Let us take Carnap as an example. Carnap holds that we can know the meanings of terms

¹² This happens in Part 3.

¹³ This is exactly what I hope to show against Boghossian's account of analytic truth (Part 3) – as truth determined by language independent meaning facts.

and sentences. But if he is supposedly a non-factualist then what is he claiming we know when we know meanings? Surely these are meaning facts? In other words, do non-factualists, who are not also complete skeptics about meaning, not assume facts about meaning? Carnap doesn't. So let's be clear about what the dispute between factualists and non-factualists is actually about.

Perhaps this is a helpful analogy. Goethe and Marlowe both write a play wherein the main character experiences, due to some dealings with the devil, a loss of moral integrity. They agree that it is *a fact* that their two plays exist and it is *a fact* that there are similarities in the plot and characterisations. To this extent they are both factualists about 'their' play and the content thereof. Goethe, however, maintains that the plot in some way tracks or represents some objective and absolute moral code. He says that the plot, consequently, expresses some facts about this objective and absolute moral code. Goethe offers, in support of this claim, that the play would not strike at the heart of so many people had it not this 'fact tracking' feature; this feature which makes it so obviously 'true'.

Marlowe denies this. He says that, since we have no direct apprehension of such an objective and absolute moral code (here Goethe, to his credit, agrees), the best explanation for the reason why the play seems to strike at the heart of 'so many people' is that 'so many people' are invested in the same moral code on which the play draws. So the message of the play somehow 'rings true' for the audience and reader. But this, in itself, says Marlowe, does not count as good evidence for the existence of the shared moral code being objective or absolute. Such a moral code might just as easily have been created or invented and then shared by 'so many people'. Furthermore, says Marlowe, actually apprehending such an objective and absolute moral code would be a requirement, to support Goethe's explanation, for why the play strikes at the heart of so many people. Yet, 'so many people' have *not* apprehended such an objective and absolute moral code. Its purported existence *can therefore not be part of an explanation* for why the play strikes at the heart of so many people.

It is this further claim by Goethe, beyond Goethe and Marlowe's initial superficial agreement about the play, that makes Goethe a factualist about the moral code from which the play supposedly draws. And it is the further claim that makes Marlowe a non-factualist about this moral code. Despite this they have both agree that it is 'a fact' that there is a play, a character Faust or Dr Faustus and that there is a loss in moral integrity for him in their respective renderings of him. The disagreement, I hope to have shown, is a much deeper one than simply noticing 'the fact' that the message of the play seems to resonate with many people and that there is some sort of similarity between the two plays. The dispute is about how

to explain the resonance and the similarities. Factualists and non-factualists disagree about the explanations of the resonance and similarities.

It is in the above manner in which, for instance, Carnap is a non-factualist and Boghossian a factualist (Boghossian, 2006; Bohnert, 1963; Hale, B and Wright, C, 2003; Coffa, 1991)

In Part 1 I show that the variations in conceptions of meaning, from Kant to Carnap, rests, covertly and overtly, in factualism about meaning. Covertly, because neither Kant nor Frege, to my knowledge, use the terms 'fact', 'factualism' or 'non-factualism' in their accounts of analytic truth. And overtly, because Carnap does. So, in neither of my synopses of Kant or Frege's accounts of analytic truth, do I explicitly use 'factualism' or 'non-factualism' to say anything about their respective positions. But I make it plain that there are implications, for factualism about meaning, derived from both their accounts. Factualism about meaning only seems to take hold, with its current philosophical explicitness and potency, in the semantic and epistemological theories of the positivists and onwards. It is in the accounts of positivist philosophers such as Carnap where non-factualism about meaning and conventionalism about truth are central planks to an account of analytic truth.

This being said, Kant, not overtly but definitely by implication, forwards a factualist account of meaning. He *must*, because he thinks there are relationships of containment which are necessary. And necessity to Kant is informed by his view that necessary truths, which equate more to their a priori status than their analytic status, are universal and absolute; they are categorical (Coffa, 1991; Gardner, 1999). There can be no categorical truths about meaning if there are no objective facts about meaning.

But Kant's case for the necessity of a priori truths, such as truths about conceptual containment, does not convince Frege that objectivity has indeed been achieved by Kant. Frege shows that Kant's idea of what a priori knowledge is implies that whatever is known in this way is known subjectively. But for Frege meaning is objective. And if meaning is objective it is so because there are objective facts about meaning. And since synonymy is 'equivalence in meaning' there must be objective facts about synonymy (Boghossian, 2006; Miller, 1998). It is for this reason that "Frege-analyticities" (Boghossian, 2006) are objective. But their objectivity is demonstrated by the fact that they are logically provable, not that they are rationally apprehended to be so (Frege, 1974; Gardner, 1999).

In contrast to Kant and Frege, Carnap's non-factualism about meaning is, arguably, one of the most distinguishing features of his account of analytic truth. It is his non-factualism about meaning and his

conventionalism about logical or analytic truth which are at the foundations of his semantic theory (Coffa, 1991; Bohnert, 1963; Carnap, 1963, pp. 60 - 67).

What analytic truth is, according to Carnap, has been party to two distinct periods or phases in his work; the syntactic phase and semantic phase (Coffa, 1991, pp. 280 - 305). Oversimplifying: during the syntactic phase analytic truth is dependent on the *structure* of a sentence rather than on the *content*. Carnap's move towards a semantic reading of 'analytic' is based on the fact that analytic, for him, eventually becomes a broader concept.

The link between Carnap's syntax and semantics came briefly to the surface during his discussion of the Tractarian idea that analyticity is recognized by the symbol alone. Carnap pointed out that this is based on a narrow idea of analyticity and on a confusion between what is linguistically determinate and what can be effectively decided... (Coffa, 1991, p. 313)

The 'structure' of a sentence is the grammatical structure; the syntactic relationship between the variables and constants. Analytic truth, when given a syntactic reading, is "linguistically determinate" (Coffa, 1991, p. 286), but not where "linguistically determinate" has anything to do with the senses of words or sentences. Analytic truth, when given a syntactic reading, is truth which is specific to a formal language, such as the language I in Carnap's *Logical Syntax of Language* (1934) or some of the languages of mathematics. Language I is a metalanguage, consisting of syntactic rules only, designed only for the syntactic regulation of some object languages 'under its jurisdiction', so to speak. These syntactic rules would include the rules for logical inference in that linguistic framework. Analytic truths are always the consequences of logical procedures (Coffa, 1991, p. 286). This quote from Friedman says it well:

First of all, Carnap interprets Wittgenstein's elucidations of the notions of language, logical truth, logical form, and so on as definitions in *formal syntax*. They are themselves formulated in a metalanguage or "syntax-language," and they concern the syntactic structure either of some particular object-language or of languages in general:

All questions of logic (taking this word in a very wide sense, but excluding all empirical and therewith all psychological reference) belong to syntax. *As soon as logic is formulated in an exact manner, it turns out to be nothing other than the syntax either of some particular language or of languages in general.* (§62) (Friedman, 1988, p. 85)

The first step, for Carnap, away from syntax as the 'referee' of analytic truth, is his work in response to Gödel's incompleteness theorem. Gödel demonstrates that in some formal systems within mathematics there seem to be some mathematical sentences which are regarded as true, yet for which the existing set of formal mathematical rules is inadequate to prove their truth or falsity. They are therefore undecidable. Since mathematical truths are regarded as necessary truths, but necessity is thought to be provable, undecidability raises problems for the standard view of mathematical truth (Coffa, 1991, p. 286). And this, of course, has a direct bearing on what analytic truth is thought to be. One thing it cannot be, for Carnap, is undecidable.

When Gödel convinced him that proof could not even grasp extensionally the concept of mathematical truth, Carnap's instinctive reaction was: something else must! (Coffa, 1991, p. 287)

Carnap's work, post-Gödel, on offering an account of mathematical truth is thus motivated by an attempt to always make all mathematical truths decidable. To achieve this end definitions are put to task. Definitions "force" all mathematical sentences belonging to a closed formal system into a truth "box". All truth which is achieved by definitions in closed formal systems is called 'analytic' (Coffa, 1991, p. 287).

This is easily achieved for formal systems, where a constructivist mode of doing things does not jar; definitions can be made up or removed at will for systems where symbols seem to make no reference to the world. Formal languages do not say very much aside from saying things about the use of their own symbols, where every symbol stands in a one-to-one relationship with a specified "value" for it. In formal systems it seems feasible to simply stipulate what the symbols should be "valued" as (Coffa, 1991, pp. 288 - 293), because their values are simply more symbols within that system. However, the moment the language is an object or interpreted language (such as the language of science) truths of that system cannot all be accounted for by the axioms of the formal system to which they belong; not all the extensions of every sentence is provable anymore. Meaning, and therefore semantic theory, comes into play because there are languages, such as object languages, where every symbol does not correspond to just one specified value, or even a specified set of values.

Here is a conjecture about Carnap's switch in strategy from syntax to semantics for particular languages (Carnap, 1963. pp. 60 - 67): Carnap always remains convinced that analytic truth is the consequence of logical procedures, but realises that there must be occurrences of logical truth where it is established by logical procedures *but* where the language systems in which it occurs are not purely formal (Bohnert,

1963). So, there are evidently instances of sentences which are true, relative to object languages (languages which *seem to be* about the world, such as scientific language), where the truth is still only determined internal to the language and not determined by a correspondence to the world. But they must be decidable from within the object language to which they belong, nevertheless.

This indicates, to Carnap, that analytically true sentences must be true in virtue of *linguistic features*. As suggested by the syntactic account of analytic truth. But sometimes these linguistic features are not features of a purely formal language. It is, therefore, required that he revises his definition of 'analytic' in light of this discovery. Meaning, with its full blown and, initially, unpalatably mysterious appearance, must now feature as a part of the explication of analytic truth. So, put very bluntly; analytic truth is still logical truth, but not only formal languages are capable of yielding logical truths. More 'expressive' languages are also capable of yielding logical truths – inference happens even in, for instance, object languages. But what keeps truth in object languages logical? What keeps it logical is that it is taken as non-referring and that there are explicitly stated rules of inference and axiomatic systems for determining meaning. Such axiomatic systems forward meaning postulates or definitions for terms. And when we have explicitly stated rules for inference and meaning, analytic truth, even for non-formal languages, is logical truth.

The aforementioned conjecture is, I believe, in line with what Coffa says about Carnap's sensitivity to the problem for analytic truth raised by object languages and, consequent, philosophical move from syntax to semantics. But it perhaps avoids Coffa's diagnosis of Carnap's move to semantics as somehow incomplete or reluctant because of being burdened by his fear of "reference" and affinity for "verificationism" (Coffa, 1991, pp. 300 - 305). Carnap's non-factualism about meaning and analytic truth is not a consequence of the two aforementioned influences. They seem to be completely correct in terms of what analytic truth must be *for it to be to be distinct* from synthetic truth.

Nevertheless, the move away from syntax as the 'referee' of truth to meaning being part of an account of truth constitutes a radical change in Carnap's theory about what, particularly, analytic truth is. And it is here where Carnap, with other positivists all in their respective manners, adopts semantic conventionalism (Coffa, 1991, pp. 306- ; Carnap, 1963. pp. 56 - 60). Meaning is determined by conventions or definitions. And if truth is determined by meaning, as in the case of analytic truth, then truth is conventionally determined. This is Carnap's semantic phase. Here Ebbs quotes Soames:

Soames writes,

[the positivists'] explanation [of truth by convention] rested on two bits of linguistic knowledge that they took to be unproblematic—(i) knowledge of what we have decided our words are to mean, and (ii) knowledge that the truth of certain sentences follows from our decisions about what the words they contain mean... (Ebbs, 2011, p. 210)

My rendering of Carnap's account of analytic truth in section 3, below, as language relative truth focuses only on his semantic phase. Everything I say in section 3, assumes we are directing our attention at this phase of his account of analytic truth. In his semantic phase meaning, when established recursively by definitions,¹⁴ has entered as an important character in his account of analytic truth.

It is near impossible to introduce 'analytic' without, parallel to this introduction, also saying something about 'a priori'. The concept of analytic truth seems to stand in a mutually formative relationship with how we know anything without appeal to our senses. This point is well made with reference to Wittgenstein, who was, of course, an ongoing inspiration to the positivists, including Carnap:

Wittgenstein's point includes two distinguishable doctrines: (1) The truth value of logical propositions is determined by the character of language, and (2) this determination is embodied in constructive procedures that allow someone who understands the given language to "recognize" the truth values in question.

The division between the range of what is linguistically determinate and what is not would eventually become the heart of the positivist conception of the a priori. (Coffa, 1991, pp. 285, 286)

For this reason, I do not try to offer synopses of Kant, Frege and Carnap's accounts of analytic truth, without making mention, where required, of their accounts of a priori knowledge too.

Having made the connection between 'analytic' and 'a priori' as I just have, it should nevertheless be said that *my* arguments for a priori knowledge being knowledge of trivial truths really only gains momentum in Part 2. There I look at an account of non-inferential a priori knowledge, as forwarded by Hale and Wright (2003).

Section 1: Kant's conceptual containment

¹⁴ More in section 3, to follow.

I offer here a gloss of Kant's account of 'analytic', but given as a precursor to Frege's development of 'analytic'. It is not my aim to provide an exegetical study of Kant's epistemic and semantic categories or to be overly concerned with getting it right 'according to Kant'. What follows then, in a sense, might be said to represent Frege's Kant. Coffa's (1991) treatment provides excellent material for this sort of gloss since he looks at Kant's epistemic and semantic categories (or the inadequacy thereof) as a precursor to the semantic tradition, which is where Frege and the rest follow. Kant's theory of knowledge, particularly that of a priori knowledge, is in part what gives rise to the later logical positivists from Vienna as well as the consequent 'semantic tradition' in philosophy (Coffa, 1991, p. 8).

But it is chiefly Kant's implied factualism about meaning, as a direct result of his, basically, metaphysical notion of necessity and the a priori knowledge we have of it, which is the point of interest for me in what follows.

Kant holds that 'necessity' is a feature of the knowledge of a judgement rather than a feature of the semantic value (the type of truth) of a judgement. Specifically, necessity is a *characteristic* feature of a priori knowledge. He famously suggests that *all* analytic and *some* synthetic judgements are knowable a priori (Coffa, 1991, p. 18). This means that all analytic and some synthetic judgements are necessary judgements, despite having other differences. In what follows I look at these other differences; I look at what distinguishes analytic judgements.

The disagreement between Newtonian physics and Leibnizian metaphysics is what fuelled Kant's desire to develop some sort of organisational structure for our thought – whether philosophical or scientific thought (Gardner, 1999). When faced with the inconsistencies between Newtonian science and Leibnizian metaphysics Kant undertakes the task of critically evaluating reason. Reason is where he sees these inconsistencies originating. His objective is to come to grips with why such inconsistencies occur. Kant takes himself to have achieved something quite considerable by offering an account of reasoning when he distinguishes analytic-synthetic categories from a priori-a posteriori categories (Coffa, 1991, p. 8). It is with these categories firmly in place and with the correct principled combinations of these semantic and epistemic categories, Kant suggests, that we avoid conceptual and rational confusions.

...I have, in this way, discovered the cause of – and consequently the mode of removing – all the errors which have hitherto set reason at variance with itself, in the sphere of non-empirical thought... I have, on the contrary, examined them completely in the light of the principles, and, after having discovered the

cause of the doubts and contradictions into which reason fell, have solved them to its perfect satisfaction.
(Kant, 2003, p. ix)

Kant holds that there is some way in which investigations into, or thought about, the nature of reality can be organised which will eliminate the inconsistencies that arise between the distinct disciplines of science and philosophy. Kant sees his task as one guided by reason rather than the empirical observation of how these respective disciplines work. Therefore, the result of such an investigation advocates *legislation* rather than *facts* about our epistemic endeavours.

Since what has to be decided is a question of legitimacy rather than of fact, it cannot be answered empirically, and since the question concerns the possibility of metaphysics, its answer cannot itself consist in a metaphysical claim or stand upon any metaphysical presuppositions. (Gardner, 1999, pp. 20 - 22)

And Kant:

I do not mean by this a criticism of books and systems, but a critical enquiry into the faculty of reason, with reference to the cognitions to which it strives to attain *without the aid of experience*; in other words, the solution of the question regarding the possibility and impossibility of Metaphysics, and the determination of the origin, as well as of the extent limits of this science. All this must be done on the basis of principles. (Kant, 2003, p. ix)

The distinction between analytic and synthetic judgement is preceded by the distinction between a priori and a posteriori knowledge. But for Kant there is a distinction between the 'origins' of our knowledge and what our knowledge 'arises out of'. He says that all our knowledge begins with, or originates from, experience, but denies that all justification or grounds for our knowledge is therefore experiential (Gardner, 1999, p. 53). Perhaps this distinction is easier to understand like this: For Kant the material *about* which we have knowledge is always material gained from experience, including the material to which analytic judgements pertain. We would now call the material of judgements, propositional content. This means that all propositional content of analytic propositions, or analytic judgements, is gained from experience, even if the way in which we know such material is not experiential. For Kant all 'judgment content' arises from experience – even that of analytic judgements. However, some of the knowledge we have about that material is knowledge which *arises from* other grounds – in other words, not from experiential grounds. Such knowledge he calls a priori knowledge. To have a priori knowledge is to know this material to be necessarily the case *in the world*, whether the judgement known a priori is analytic or synthetic. When knowledge, and not just the material which is

known, arises from experience it is a posteriori knowledge. When it does not arise from experience it is a priori.

By the term “knowledge a priori,” therefore, we shall in the sequel understand, not such as is independent of this or that kind of experience, but such as is absolutely so of all experience... Pure knowledge a priori is that with which no empirical element is mixed up. (Kant, 2003, p. 2)

To decide whether we have a priori or a posteriori knowledge we ask whether the judgement that we have, based on that knowledge, has ‘strict universality’. A judgement has strict universality when what it judges is true for all the objects to which it pertains (Gardner, 1999, p. 53). So, to say of a triangle that it has three sides is a judgement which has ‘strict universality’, because all triangles have three sides. Such a judgement is what Kant calls a necessity. And based on this we are entitled to think of the knowledge we have of such a judgement as a priori knowledge, “...Kant makes necessity criterial for a priority...” (Gardner, 1999, p. 53).

For Kant ‘analytic’ and ‘synthetic’ are not synonymous with, respectively, ‘necessary’ and ‘contingent’ and ‘a priori’ and ‘a posteriori’. Kant develops ‘analytic’ and ‘synthetic’ *from* these concepts, they have principled relationships with these concepts, but they do not mean the same thing. This is because, according to Kant, it is possible to have judgements which are necessarily true, and therefore knowable a priori, but that are synthetic by nature.

Analytic judgements are distinct from synthetic ones in the following two ways: 1. They express containment relationships between subject and predicates and 2. It is impossible to negate them without contradiction. So, even though some synthetic judgements might be necessary and a priori, they never express judgements where the predicate of the sentence is contained by the subject. I look first at the criterion of conceptual containment.

Analytic judgements are directly related to conceptual analysis. An analytic judgement is one that expresses the relationship between two concepts and analysis is what confirms this relationship. Categorical judgements are where the two concepts in question are always subject and predicate concepts. Kant holds that all analytic judgements have, at basis, categorical judgements. In other words, if a judgement is analytic it will be reducible to a subject-predicate sentence (Coffa, 1991, p. 13) . A subject-predicate sentence is one such as “A flower is a part of a plant”, where ‘flower’ is the subject and ‘plant’ the predicate. When ‘flower’ has been explicated in terms of ‘part of plant’ we have analysed the concepts of both the subject and predicate in that judgement.

What Kant means by 'contained' is that the predicate is "thought in" the subject; that thinking of the subject entails always thinking of the predicate. The predicate is 'contained' when the information given by the concept of the predicate does not exceed that given by the concept of the subject. So, an example for Kant would be "All bachelors are unmarried men" is a sentence wherein the subject "All bachelors" contains fully the predicate "unmarried men". But a sentence such as "Today is a cold day" is synthetic as it is not the case that the concept of "cold day" is contained by the concept of "today". In the latter case "cold day" gives more (or, at least, not equivalent) information than "today".

For example, when I say "all bodies are extended," this is an analytical judgment. For I need not go beyond the conception of *body* in order to find extension connected with it, but merely analyse the conception, that is, become conscious of the manifold properties which I think in that conception, in order to discover this predicate in it: It is therefore an analytical judgment. (Kant, 2003, p. 7)

There is therefore a minimal requirement of necessity on the containment relationship. We have seen that necessity, however, for Kant is not uniquely attributed to analytic judgements. Necessity is a property of any judgement which is known a priori. And this might also be synthetic for Kant. We say that synthetic judgements are not judgements of conceptual containment, yet are necessary, when they are a priori (Coffa, 1991, p. 15). Mathematical judgements, for Kant, are examples of synthetic a priori judgements; judgements which are necessary, knowable a priori but not expressions of conceptual containment and not subject to contradiction when denied (Coffa, 1991, p. 15).

But how do we know a relationship of containment? It is here that the second criterion for analytic judgement arises. When a judgement displays conceptual containment it will also have the feature that its denial will result in a contradiction.

Kant's holds that relationships of conceptual containment are recognised by the fact that it is impossible to deny an analytic judgement (i.e. relationships of conceptual containment) without invoking a contradiction. He calls this principle 'The Principle of Analytic Judgement' (Coffa, 1991, p. 17). And to be able to recognise a contradiction it is required that the concepts constituting the judgement are analysed. Kant follows largely the idea that concepts are representations (Coffa, 1991, p. 9). This means they are images which we represent to ourselves. When we analyse a concept or representation it becomes clearer to us, even though the concept itself does not change (Coffa, 1991, p. 11). This 'clarification' is not demonstrable. It is, so to speak, a cognitive improvement located internally to the subject.

Using the example of a triangle: 'A triangle has three sides' is analytic because the concept of three-sidedness is contained in that of triangularity and its negation is contradictory (Gardner, 1999, p. 54). Furthermore, it does not make sense to say of a triangle that it does have four sides. In other words, to say 'Triangle B has four sides' is illogical, because any figure which has either more or less than three sides would not be called a triangle. So when a synthetic judgement is necessary it is a necessary judgement minus the worry about contradiction. For Kant mathematical sentences are examples of such judgements (Coffa, 1991, p. 15). An example of a synthetic a priori judgement is: " $7 + 5 = 12$ ". A denial of this claim would not immediately signify a contradiction in the same way as 'A triangle has four sides'.

For Kant the principle of contradiction (negation) is the highest principle of analytic judgements.

Kant says that the principle of contradiction is the 'highest principle of all analytic judgements' and it explains how they are possible [...]. Analytic judgements are the only ones whose truth can be determined with the aid of this principle... (Gardner, 1999, p. 54)

The question then arises: Given that analytic judgements are expressed as sentences where the predicate concept is contained by the subject concept, how do speakers recognise such a containment relationship? Alternatively, what has to be the case for us to immediately apprehend the lack of a containment relationship when there is none? For this we turn to the opening statement about the close relationship between 'analytic' and 'conceptual analysis'.

I have explained, briefly, that analysis of a concept is when the subject concept is explicated in terms of the predicate concept. But what makes Kant so sure that all speakers will analyse the concept of 'flower' in the same way? In other words, so that, for everyone, it would turn out to be a contradiction to say that 'It is not the case that a flower is part of a plant'.

This question must be answered in the negative. For Kant the epistemic basis of synthetic a priori judgements, which are also necessary and a priori, is pure intuition (Coffa, 1991, pp. 17 - 18). This means that, because synthetic claims do not display conceptual containment it is required that some other faculty of apprehension is marshalled for recognising the synthesis of the concepts constituting the judgement in question. This faculty cannot be sensory when the judgement is expressing a necessary truth. The faculty needed for apprehending such truths is called 'pure intuition'. Pure intuition allows us to know, on a non-sensory basis, the relationship between two concepts which do not display containment and therefore need to be synthesised some other way.

Kant's doctrine of pure intuition had multiple origins. We have identified two: the principle of synthetic judgments and the thesis of synthetic a priori knowledge. The reason proceeds as follows: [...] Yet they are all surely necessary and hence, according to Kant, a priori. Moreover, by Kant's criterion, every judgment with a simple concept must be synthetic and surely such judgments are necessary. Thus, using his nominal definition, Kant had no difficulty identifying synthetic a priori judgments. (Coffa, 1991, p. 18)

But Kant's notion of analysis of concepts leaves the outcome of analysis too subjective (Coffa, 1991, p. 20). For clarification to be a process of rational apprehension of a relationship of containment leaves us in the dark about two things: how do speakers (or others) know when they have achieved clarification and how does communication happen when clarification is, by Kant's account, subjective? It seems, after all, as if "All bachelors are unmarried" might not mean the same thing as "All unmarried male adults are unmarried" to some speakers. One person's analysis of 'bachelor' in the first judgement might not allow for it to be consistent with the second judgement. For instance, they might analyse 'bachelor' as 'a young adult male reading at a university'. This happens when a representation of bachelor is 'indistinct' (Coffa, 1991, pp. 19 - 20). And there is no way, by Kant's account of analysis, that such indistinctness can be guaranteed not to arise. Kant's focus on the psychological aspect of semantics, i.e. the focus on what it is to understand that one concept is contained by another, instead of a focus on more formal semantic considerations sees him confusing the conceptual with the analytic.

We can now see how Kant's neglect of the nonpsychological dimensions of semantics may have led him to confuse the analytic and the purely conceptual; for he would have been correct to think that an understanding of all concepts is essential for analysis (in the psychological sense) and that analytic judgements are the outcome of analysis... The analysis of a concept does, indeed, require an understanding of it; but the grounding of an analytic judgement qua content calls only for an understanding of what we have earlier called its structure (Coffa, 1991, p. 20)

Section 2: Frege's epistemic account

Frege departs from Kant in two significant ways regarding analytic truth. He thinks Kant is wrong about analytic truth for these reasons: 1. Kant's account of a priori knowledge renders the analysis of concepts subjective and it, therefore 2. cannot explain how analytic expressions (which are logical expressions, to Frege) are absolute or universal.

For Frege the semantic distinction between analytic and synthetic *is dependent on* the epistemic distinction between a priori and a posteriori. Frege holds that there is a direct and necessary relationship between a priori knowledge and analytic truth on the one hand and a posteriori knowledge and synthetic truth on the other. Like Kant, Frege maintains that knowing the truth of an expression a priori is to know it necessarily, but unlike Kant, Frege denies the possibility of a priori knowledge of anything but analytically true expressions. And like Kant, but for different reasons, Frege's account of analytic truths renders them factual truths.

Since a priori and a posteriori are types of knowledge, the distinction between these is a function of types of justification. Frege speaks about, respectively, logical proof and empirical proof as types of justification, yielding, respectively, a priori or a posteriori knowledge. One of the implications of holding that the analytic-synthetic distinction is dependent on the epistemic distinction between a priori and a posteriori knowledge is that without either form of justification (i.e. logical or empirical proof) the distinction is impossible to make. There are, therefore, no inherently analytic or synthetic expressions, nor are there inherently a priori or a posteriori expressions:

Now these distinctions between a priori and a posteriori, synthetic and analytic, concern as I see it, not the content of the judgement but the justification for making the judgement. Where there is no such a justification, the possibility of drawing the distinctions vanishes. (Frege, 1974, p. 3)

Frege departs from Kant's formulation of 'analytic' and 'synthetic' for, chiefly, the following reason: the formulation is hinged too much on psychologistic factors, such as what concepts (i.e. predicate concept) a speaker takes a particular concept (i.e. subject concept) to contain. Frege's worry is twofold: 1. He objects to Kant's account of the a priori; knowledge of conceptual containment, if it is to be objective knowledge, cannot be intuitive but must rather be demonstrable or 'provable' (Frege, 1974, p. 1). 2. The relationship of containment and how we know this relationship, as conceived by Kant, entails that meaning is subjective, whereas meaning, for Frege, is objective (Miller, 1998, pp. 36 – 37; Coffa, 1991, pp. 66 – 67). This becomes particularly relevant to Frege's conception of analytic truth as logical truth.

Kant's treatment of 'analytic' is unable to serve the logical and mathematical purposes it is meant to, according to Frege. That an analytic judgement cannot be left up to the subjective 'conceptual' predispositions of a speaker, but should rather admit of proof seems, to Frege, an important part of defining concepts.

Proof is now demanded of many things that formerly passed as self-evident... Negative and irrational numbers, which had long since been admitted into science, have had to submit to a closer scrutiny of their credentials. In all directions these same ideals can be seen to work – rigours of proof, precise delimitation of extent of validity, and as a means to this, sharp definitions of concepts. (Frege, 1974, p. 1)

And if concepts should admit of proof, this means that analytic judgements, if they have to do with ‘conceptual containment’, should also admit of proof. But, since concept containment is something which is secured by rational apprehension (by the individual), according to Kant, there is no possibility of analytic judgements admitting of proof, by Kant’s account of them. Analytically true judgements, according to Kant, are judgements which are true by virtue of the relationship (i.e. containment) between the *meanings* of their constituent terms. But what meaning is to Kant is not what it is to Frege.

Section 2.1: Sense and reference

Frege notices that there are cases where, despite speakers using different terms, and having, respectively, different associated thoughts with those terms, the terms still refer to the same object. So, there are cases where the same object has different names, such as the use of ‘Morning Star’ and ‘Evening Star’ for the same object. This shows, to Frege, that meaning is not always completely accounted for by reference.

Frege holds that the meaning of sentences is determined by two relationships: 1. The relationship between the sentence’s constituent *terms* and a linguistic community’s *understanding* (Miller, 1998, p. 35) of those terms. 2. The relationship between a sentence’s constituent *terms* and *the parts of the world* which the term denotes (Miller, 1998, p. 29). The first relationship is called the sense of the sentence and the second the reference of a sentence. For Frege what a sentence refers to in the world is determined by what its sense is (Miller, 1998, p. 28). This is because understanding a sentence is what will decide what the sentence ostensibly means; *what* it points to in the world, if to anything at all. It is for this reason that two phrases can have two distinct senses even though they might have the same reference. ‘Morning Star’ and ‘Evening Star’ were two phrases about two, seemingly, distinct objects observed at two times of the day. It was then discovered that both the phrases point, in fact, to the same object; a planet called Venus (Miller, 1998, pp. 26, 27). The senses of these phrases are therefore distinct from their shared referent.

But if the truth of a sentence is related to how it makes contact, or corresponds to the world, then the distinction between the sense and referent of its constituent terms or phrases raises a problem for truth. Is truth now determined by the associated thought (sense) of a sentence or by its correspondence to the world (reference)?

What this illustrates to Frege is that it is possible to have an *understanding* of a phrase or sentence without knowing whether the understanding is *true* - reflects what is the case in the world. So phrases and sentences can have meaning without being true descriptions of some state of affairs. The semantic *value* of a sentence is its truth (or falsity) and the sentence is true when the understanding of it, i.e. its sense, corresponds to what it actually refers to in the world. But this means that, without first having a sense of a phrase it is impossible to know its semantic value (whether it 'truthfully' or 'falsely' denotes a part of the world). And the sense of a phrase or sentence is this semantic *property* – the *property* which determines its semantic *value* or truth (Miller, 1998, pp. 27 - 35).

So, in giving an account of meaning we are going to have to introduce some semantic property in addition to semantic value, the grasp of which constitutes understanding. Again, Frege introduces the property of having sense to play the role of this semantic property. (Miller, 1998, p. 27)

So, it does not follow that when a sentence cannot have semantic value (reference) without a meaning (sense) that a sentence cannot have meaning (sense) without having a semantic value (reference). There are many which do. There are many sentences which have a sense but make no knowable reference. But there are no sentences, or part of a sentence, for which a reference can be located without it first having some sense associated with it. Frege's examples of the 'Evening Star' and 'Morning Star' as well as his study of "bearerless names" serve as illustrations of how it is possible to have sense without knowledge of semantic value and therefore how semantic value is not necessary for the understanding of the meaning (or a certain aspect of the meaning) of a sentence (Miller, 1998, pp. 28, 29).

Very important to Frege's notion of sense is that sense is not informative. So to have an associated thought with a sentence or phrase is not to know anything about the world. This is because to grasp a sense of a phrase or sentence is not necessarily to grasp also the referent.

This, indeed, is the upshot of Frege's solution to the problem of informativeness. The argument is that if the semantic value of an expression was part of what was grasped by someone who understands it, there would be no possibility of, for example, understanding a sentence without knowing its truth-value. (Miller, 1998, pp. 34 - 35)

Section 2.2: Sense, reference and analytic truth

How then, if at all, does sense relate to analytic truth? If analyticity is what Kant suggests it is, then it is the *truth* of an 'expression' (using Frege's term, but in Kant's terminology, the 'judgement') when there is conceptual containment between the *meanings* of its predicate and subject terms. Furthermore, says Kant, such containment is intuited a priori. But, since knowledge of a relationship of containment is a priori, it must be necessary. Frege agrees that a priori knowledge is knowledge of necessities, but Kant's account of the a priori fails to explain this; it is not clear how Kant's 'intuitional perception' or 'apprehension', required for observing necessary relationships of entailment, will actually track or apprehend such purported necessities. For Frege, if there is going to be something like truth by virtue of the meaning (concept/sense), and where it must yield objective meaning, it would have to be based on some sort of demonstrable procedure. And this procedure must be of the type that, no matter who employs it, it will yield the same results for everyone under the same conditions. Intuitional apprehension does not secure the sort of objective proof that Frege is after.

Can Frege's account of sense help to meet his requirement for the objectivity of meaning and therefore truth by meaning? In other words, can sense if it is "...what someone who understands the expression grasps" (Miller, 1998, p. 34) be part of an effective account of meaning, if meaning is to be objective and truth provable? The answer is no, for Frege. To grasp sense is just to grasp a meaning. For *truth* by virtue of meaning (i.e. analytic truth), Frege must look for a way to ensure the exact semantic replacement of one part of an expression with another. If analytic truth is determined, in one way or another, by the meanings of the constituent terms of an expression 'sense' cannot do this work.

The first feature sense should have, if it were able to assist a notion of analytic truth as logical truth is that it must be objective. It must be objective or otherwise it is psychologistic and not provable. If sense is 'associated thought' it is subjective and implies the impossibility of communication (Miller, 1998, p. 33). It is exactly this criticism which Frege poses against Locke's account of sense. Locke says that a speaker grasps the meaning of a word when he is "disposed to have a mental image" associated with that word (Miller, 1998, p. 37). But this account of sense undermines the very thing language sets out to achieve. To explain meaning is, after all, in part to explain how people understand each other.

Locke's account leads to tension, which the reader will probably have noticed already, between the public nature of meaningful language and the private nature of ideas and mental images. [...] Different speakers

can communicate with each other in virtue of the common senses they have attached to words. (Miller, 1998, p. 37)

Sense then must in some way be objective in order to support communication.

The reference [semantic value] and sense of a sign are to be distinguished from the associated idea ... The reference of a proper name is the object itself which we designate by using it; the idea which we have in that case is wholly subjective; in between lies the sense, which is indeed no longer subjective like the idea, but yet is not the object itself. (Miller, 1998, p. 36)

Frege holds that analytic truth is the truth that an expression has when it displays synonymy between the meanings of the subject and predicate terms. This means, at first glance, that the senses of the subject and predicate terms must be identical. But if "...the sense of an expression is what someone who understands the expression grasps" (Miller, 1998, p. 34) then it is possible that people have a different grasp of the same term. Think before and after the discovery of Venus as the referent for 'Morning Star' and 'Evening Star'. So there is no guarantee that the senses of subject and predicate terms will be synonymous, if there is no way in which it can be guaranteed what it is that all speakers will understand when using the expressions which contain them. And without such guarantees there can be no proof of analyticity.

So, if the quest is for an account of synonymy, then sense cannot do the work here and nor can reference (Miller, 1998, p. 45). Synonymy is not the same thing as equivalent sense, for Frege, because sense is informed by different speakers' understanding and use of the same term. What is, on the other hand, required for analytic truth to be provable is a property of an expression which allows it to be manipulated logically. This means parts of it have to be rigid enough to be replaced by its equivalent expression without affecting the truth of the overall expression.¹⁵ So, '2' is rigid enough to be replaced by '1+1' in any expression without changing the semantic value of it. This is because '1+1' is reducible to its logical primitive term, '2', which gets us to '2 = 2'; a tautology. When this happens we say the '2' and '1+1' are intensionally isomorphic; glossed, their logical forms 'look the same'. Sense, being directly related to determining reference cannot accommodate Frege's requirement for intensional isomorphism.¹⁶

¹⁵ Sense, of course, might sometimes be able to achieve this. But the point, for Frege, is that it cannot be shown to.

¹⁶ It is well known that Frege argues that sense determines reference. It is not necessary for the present discussion of analytic truth to go into detail what Frege's position about this was.

Adherence to the principle that the sense of an expression involves everything belonging to the way in which its reference is determined in accordance with its composition seems thus to lead to the conclusion that there probably is no sharp criterion for sameness of sense short of the rather boring notion of intensional isomorphism. And this reinforces the suggestion with which I began this chapter; namely, that synonymy is simply not the interesting question to pursue in discussing the notion of sense. (Dummett, 1981, p. 341)

It is intensional isomorphism which is what Frege takes synonymy, and logical equivalence, to be premised on. I have already said that for Frege the distinction between analytic and synthetic is informed by the distinction between a priori and a posteriori. How then is intensional isomorphism proven or demonstrable?

Section 2.3: Synonymy and analytic truth

Since, for Frege, semantic concepts are a function of epistemic concepts, and analytic expressions are knowable a priori, let me look briefly what it is that Frege takes a priori knowledge or justification to be. I have already mentioned that he does not think of a priori justification as an immediate and intuitive rational apprehension of a necessary relationship of conceptual containment. “Intuitions” is how Kant explains the a priori knowledge that speakers have of, supposedly, “self-evident” conceptual containment. For Frege, however, logical analysis is the only legitimate form of a priori justification. A priori justification is when we derive proofs from general laws, which do not need, or even allow, of proofs themselves (Juhl, C. and Loomis, E., 2010, p. 14).

The premises of logical proofs are axiomatic and never empirical. The sorts of proofs which will establish a synonymous relationship between the meanings of two terms are not the internal cognitive processes aiding clarification and comprehension of containment relationships, but are demonstrable processes performed by a speaker who understands the expression of it. Furthermore, it is required that the rules for proof, i.e. the rules for logic, are shared. For Frege it is impossible that the premises of a logical proof are informative if the proof is to end in an analytic statement/conclusion. Analytic propositions, when they are the conclusions to such proofs, are definitions or general logical laws and bear no information about the extra-linguistic world.

If, however, it is impossible to give the proof without making use of truths which are not of a general logical nature, but belong to a sphere of some special science, then the proposition is a synthetic one. (Frege, 1974, p. 4)

And

If, in carrying out this process, we come only on general logical laws and on definitions, then the truth is an analytic one, bearing in mind that we must take account also of all propositions upon which the admissibility of any of the definitions depends. (Frege, 1974, p. 4)

The corollary of this is that, for Frege, it is not possible to construct logical proofs, i.e. proofs which end in logically deductive conclusions, if the premises are understood as being in any way informative or bearing contingently true information. Why? For this seems contrary to what so many theorists believe is possible with deductive proof; surely one can take empirical premises and construct a proof from these and end up with an empirical conclusion? Frege denies this possibility. If this were to be the case, says Frege, the inferential pathways of a proof, i.e. the transference of truth from premises to conclusion, would have to be able to do so for contingent truth. For Frege this is impossible since logical proof can only accommodate non-contingent expressions.

For a truth to be a posteriori, it must be impossible to construct a proof of it without including an appeal to facts, i.e., truths which cannot be proved and are not general, since they contain assertions about particular objects. But, if on the contrary, its proof can be derived exclusively from general laws, which themselves neither need or admit of proof, then the truth is a priori. (Frege, 1974, p. 4)

If it is impossible to have, as the premises of a logical proof, *contingent* expressions then it will not suffice for meaning to be that which is intuitively apprehended by a speaker. Because, for Frege, it seems to be contingently the case what that might be to the speaker. For Frege a priori justification is the demonstration of logical proof. This means that anything (i.e. the concluded expression) that is justified or known in this way is the product of logical proof. The only way in which it is possible to secure a consistent (objective) understanding of terms, i.e. their meanings, is to determine their meanings by definition. This has the desirable effect of all the premises and therefore the conclusion being composed of shared definitions for all the terms employed, which then enables a proof of a synonymous relationship (Coffa, 1991, p. 76).

Frege holds that empirical judgements are about what is “physically and psychologically actual” (Frege, 1974, p. 20). It is for this reason that Frege thinks it is wrong to say, as Kant does, that the foundations of

mathematics presuppose a concept of space and time. Mathematics is infinite and the expressions thereof are 'general' in the same sense that purely logical expressions are. On the other hand, for Frege, it does not seem possible to have an a priori concept of space and time as infinite. The nature of space and time is therefore a matter of a posteriori judgement. And because it is a posteriori it does not admit of logical proof (Juhl, C. and Loomis, E., 2010, p. 14)

Frege goes on to say that there is no mention made by Kant of "any connexion with sensibility, which is, however, included in the notion of intuition in the *Transcendental Aesthetic*, and without which intuition cannot serve as the principle of our knowledge of synthetic a priori judgements" (Frege, 1974, p. 19). This means that if Kant suggests that it is by intuition which we come to know the synthetic truth of arithmetical judgements, he is required to explain how such a faculty of apprehension works. It is not, to Frege, in any way obvious that a judgement which does not show a relationship of conceptual containment, in Kant's sense, can be known in a way which is not experiential. Bear in mind that for Frege the method of justification is a defining feature of the type of truth of an expression. Kant's insistence that some expressions which are synthetic can be known a priori, and are therefore necessary, makes no sense to Frege. Particularly in the absence of an account of the purported a priori intuition that might serve as the epistemic basis of some selected synthetic expressions.

The basis of arithmetic lies deeper, it seems, than that of any of the empirical sciences, and even that of geometry. The truths of arithmetic govern 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. Should not the laws of number, then, be connected very intimately with the laws of thought? (Frege, 1974, p. 21)

It seems that Frege, aside from thinking that Kant is not only wrong about the synthetic nature of mathematical sentences, has also failed to make mention of any way in which arithmetical judgements are known a posteriori, which they would need to be in order to be regarded synthetic. For Frege the "general laws of and definitions" by which arithmetical judgements are justified describe only *ways of thinking*. And these laws and definitions are a priori and analytic (Juhl, C. and Loomis, E., 2010, p. 15).

How does Frege's defence of the a priori justification of arithmetic, and what this says about the analytic truth of arithmetical sentences, bear on his account of analytic truth in general?

It is easier to detect synonymy in an arithmetical expression than in an expression in natural language. If Frege claims that there is a relationship of synonymy between the terms in some natural language expressions in the same manner as there is between the numbers and symbols of arithmetical

expressions, then what does this amount to and how do we recognise synonymy in natural language? After all, in maths we do sums, but it is not so clear what it is that we do in natural language to permit the diagnosis of an expression as analytically true. To begin, logical statements, which are written using symbols for logical constants and variables *are* the laws of thought, for Frege. The laws of thought are the laws of arithmetic. Arithmetic is based on logic. Let us say logical equivalence is expressed like this:

$$P \leftrightarrow Q :: (P \supset Q) \& (Q \supset P)$$

$$P \leftrightarrow Q :: (P \& Q) \vee (\sim P \& \sim Q)$$

This means that saying that there is a materially bi-conditional relationship between the sentences 'P' and 'Q' is the *exactly the same* as saying that 'if P then Q' as well as 'if Q then P' are true. Also, to say that there is a materially bi-conditional relationship between 'P' and 'Q' is *exactly the same* as saying that either it is the case that 'P' and 'Q' are true or that neither are true. But what cannot be the case with a material bi-conditional is that only one (either 'P' or 'Q') is true. Now it is the meaning of 'exactly the same' which brings us closer to what is meant by logical equivalence. Frege suggests that we understand '=' in arithmetic as signifying the logical equivalence of what appears on either side of it. And it is logical equivalence, as well as the *justification* of a claim to logical equivalence, which is, at bottom, what characterises analytically true expressions. Why?

Firstly, the method of justification: It is not possible, according to Frege, to observe, a posteriori, a claim to necessity, because this would entail that the necessity is a relationship between parts of the extra-linguistic world. There is evidently no manner in which necessary claims can be justified a posteriori. It is for this reason, i.e. that we justify the sentences of arithmetic a priori, that we take them to be analytic.

And secondly, logical equivalence: An analytic sentence is one which is logically reducible to a tautology. To be reducible to a tautology means replacing synonyms for synonyms, and the success of this is dependent on the logical equivalence of two terms standing in a synonymous relationship with each other (Dummett, 1981, p. 341). Dummett explains that for Frege sense is something perhaps richer (in meaning and associated thought) and therefore less rigid than merely the technical definitional meaning of a term which is capable of being intensionally isomorphic with another term. I have already alluded to this above in Miller's (1998) explication of sense. For Frege, *analysed* (note the priority of justification) terms and expressions yield analytic definitions (Dummett, 1981, pp. 255 - 260). Frege divides terms or expressions into those which are analysable and those which are non-analysable. Non-analysable terms are "logically primitive". And logical analysis is incomplete...

...until we have reached a definiens framed wholly in terms of expressions that may be claimed as indefinable in an absolute sense. (Dummett, 1981, pp. 256 - 257)

For an expression to be a tautology the meanings of the analysed terms must be in such a form as to indicate no possible variation of meaning and thought to anyone who understands the statement. For this to be the case terms are, let us say, sanitised – all rich and variable meaning content or associated thought is ‘cut away’. But what happens when an analysed term ends up, after analysis, not bearing much resemblance to its more complex forms? In other words, it bears no resemblance to what we originally understood when using it. What happens when we have reduced the meaning of a term and in doing so it loses the very meaning we take it to have in the first place? For Frege this is not a problem; it is in fact the aim of logical analysis and exhibits the exact character he takes analytic truth to have. An analytic sentence is not one which must convey the ordinarily associated sense of the sentence.

In any case, Frege’s position is clear: logical analysis does not require that the definitions given strictly preserve the senses of the defined expressions. (Dummett, 1981, p. 259)

That a logical analysis will not necessarily preserve the sense of a defined expression is explained, as I have above, by the fact that sense is not what is logically reducible, but is what is grasped when an expression is understood. For Frege, an unanalysed definiendum is a theorem. Such a theorem is then only fully analysed when the definiens is explicated in primitive terms. And this fully analysed definiens yields what Frege calls an analytic axiom. An analytic axiom will look like a logically primitive definition. The parts of that definition which are equivalent to each other are intensions. And the expression is analytic because the intensions are isomorphic with each other; they logically resemble each other.

Frege holds (see above quote) that analytic expressions, or logically axiomatic propositions are absolutes or universal (Dummett, 1981, pp. 256 - 257). This means that, for Frege, there is only one correct way in which an expression can be analysed. It is for this reason that Frege says that meaning is objective. The implication is, of course, that there are objective facts about the primitive or axiomatic meanings of terms. If there were not it would be impossible to say of the analysis of expressions that they render absolute axioms. There are some problems which arise with what “absolute” is and whether or not it is possible to show that an analysis in fact renders an “absolute” axiom. What is certain though, according to Dummett, is that even though analysis might possibly not issue “absolute” axioms, this does not preclude that some terms, or all terms, do not have a “unique” analysis into its constituent terms (Dummett, 1981, p. 258). So, for Dummett, the fact that Frege’s account of analytic truth has not been

fully vindicated is not the final word on its overall correctness. It is the notion that terms have “unique’ and “absolute” logically primitive terms which forms part of Frege’s case for realism in mathematics (that mathematical terms refer to mind-independent entities). This is, however, not for discussion here, but is in part what Carnap reacts against in his language relative account of analytic truth.

I think it is worth ending this gloss of Frege’s account of analytic truth with a quote I take to capture the sentiments of Frege’s overall project. It will then also be easier to understand why and how Carnap retains some and rejects some of what Frege proposed.

The aim of proof is, in fact, 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. But there may even be justification for further hope: if, by examining the simplest cases, we can bring to light what mankind has there done by instinct, and can extract from such procedures what is universally valid in them, may we not thus arrive at general methods for forming concepts and establishing principles which will be applicable also in more complicated cases? (Frege, 1974, p. 2)

Section 3: Carnap’s language relative account

I mentioned above the problem of the distinction between *logical* and *factual truth*, which constitutes a point of divergence among those working in semantics. To me it had always seemed to be one of the most important tasks to explicate this distinction, in other words, to construct a definition of logical truth or analyticity. (Carnap, 1963, pp. 56 - 60)

A semantic theory, or a theory of meaning, about analytic sentences should be able to explain what meaning a sentence which is analytically true has. A good semantic theory will also have something to say about whether or not meaning is determined by facts.

We have seen that Frege shows how Kant’s account fails to capture the *necessity* of containment relationships. Because Kant’s account of the a priori renders all knowledge acquired a priori subjective his semantic theory fails to grasp what is objective about meaning. And if meanings are not objective then the containment relationship between subject and predicate concepts cannot be objective either. This means that analytic truth is subjective. This, according to Frege, cannot be right. He offers an

account of truth and meaning which he believes demonstrates their objectivity. For Frege, there are objective facts about the truth and meaning of analytic sentences. He argues that analytic sentences are logically reducible, by way of logical proofs, to logical primitives. It is these primitives that are objective in the sense that a valid logical proof for any concept will yield the same definitions for anyone.

Proof is now demanded of many things that formerly passed as self-evident... Negative and irrational numbers, which had long since been admitted into science, have had to submit to a closer scrutiny of their credentials. In all directions these same ideals can be seen to work – rigours of proof, precise delimitation of extent of validity, and as a means to this, sharp definitions of concepts. (Frege, 1974, p. 1)

In what follows, I explain that, even though Carnap was greatly influenced by Frege's logicism (Coffa, 1991), he forwards an account of analytic truth as logical truth (here Carnap is still aligned to Frege), but argues that such truth can only be necessary truth if *true relative to constructed language systems*. By 'constructed' I mean that they are made up, or "freely invented" (Hale, B. and Wright, C., 2003), by a linguistic community. In this sense, Carnap's account of analytic truth subscribes to a type of 'formalism', because he takes the rules of logic to be constructed linguistic rules or conventions (Coffa, 1991; Bohnert 1963).

Carnap's account of analytic truth is based on the following two underlying semantic suppositions: 1. Not all accounts of truth and therefore meaning are 'cashed out' in terms of verification (here he eventually departs from early logical positivist theories about meaning), 2. When the meaning of a sentence is not 'cashed out' in terms of verification, the truth of that sentence is logical truth and the meaning of such a sentence has no knowable objective grounds, and is therefore taken to be non-factual and constructed. This 'non-factualism' is epistemological rather than metaphysical, insofar as we have no *knowledge* of the supposed objective and foundational facts which some accounts of truth and meaning presuppose (Coffa, 1991, p. 307). 'Objective', henceforth, will be used in the Fregean sense, as explained in section 2.

In section 3.2 below I show how Carnap's position is not a metaphysical one, but rather an epistemic one (Coffa, 1991, p. 317). Understanding these two points goes a long way to understanding Carnap's notion of analytic truth. He resists taking a metaphysical stance on the factuality of meaning and concludes that analytic truth is logical truth, as determined by constructed logical systems.

It is near impossible to render Carnap's account of analytic truth without also giving some explanation of his epistemology; at least his account of a priori knowledge. Like Frege's, Carnap's conception of analytic

truth is closely tied in with his conception of how we might know things non-empirically. Like for Frege, Carnap insists that all claims to truth must be justifiable or provable. And like for Frege, justification is always either empirical or logical. This means, respectively, justification is always either a posteriori or a priori. But against Frege (and Russell) Carnap argues that logical proof includes mathematical proof, *only if* logic and mathematics are accepted to be without knowable objective foundations (Coffa, 1991, pp. 307 - 309).

I show, particularly in section 3.2, that for Carnap a sentence is analytic partly because of the way in which it is justified. For Kant, Frege and Carnap some sentences are justified a priori. But, unlike for Kant, Frege and Carnap hold that the a priori justification and knowledge of analytic truths is *demonstrable* logical proof. Demonstrable logical proof is proof which is executed according to accepted rules of logic or rules of deductive inference. Plainly then Carnap's account of analytic truth is determined by what he thinks logical truth is. So, some of what I do in what follows is to explain what it is that Carnap thinks about logic and necessity. To say, for instance, that Carnap posits a "non-factualist and semantic conventionalist account" (Coffa, 1991, pp. 306 - 326) for the sentences of logic is to say the same about analytically true sentences, even when they are not expressing directly, for instance, the laws or rules of logic.

I give a very brief précis of Carnap's account of a priori knowledge. The précis should be enough to show in what way Carnap's account of a priori knowledge is central to his explication of analytic truth. A more comprehensive investigation of a priori knowledge follows in Part 2. There I discuss the relationship between logical truth and a priori knowledge and also under what conditions a priori knowledge might be non-inferential. We will see that in some particular cases, also for theorists such as Carnap, it is possible to have non-inferential a priori knowledge (Hale, B. and Wright, C., 2003).¹⁷

In part Carnap's account of analytic truth is a reaction to the Platonism underpinning Frege's, for whom the objectivity of meaning was dependent on thought being objective. And for this to be the case thought had to exist independently of the construction of language. Language creation had to match or track such an independent realm of objective thought.

Frege believed that he needed to postulate the third realm in order to safeguard the objectivity of thoughts and their accessibility to different individuals; but, as Wittgenstein taught us, these things are

¹⁷ I offer a detailed account and defence of non-inferential a priori knowledge in Part 2, section 4.

sufficiently secured by the fact that the use of language is common practice in which its many speakers have learned to engage. (Dummett, 2006, p. 10)

Carnap, with Wittgenstein,¹⁸ rejects this or any other metaphysical stance as a requirement for semantic theory. Analytic sentences are logical truths and logic cannot be confirmed to be objective in the sense that Frege thinks it is. It is well known that Carnap's interest in logical truth is expressed across two phases: the syntactic and the semantic (Bohnert, 1963, p. 411). My précis of Carnap's account of analytic truth is focussed entirely on his semantic phase (i.e. post-Tarski), which is also his later phase. The reason, simply, is that it is his treatment of definitions, not simply as grammatical forms, but also as conventions determining 'rich' meaning, which is of interest to this project. It is where sentences seem to bear 'rich' content that drawing the distinction between factual and logical truth becomes, to me, even more important to a campaign set out to reject the synthetic a priori.

Section 3.1: A departure from Frege and his hope for objectivity

Carnap responds to the first problem by relativizing the notion of logic itself. There is no longer a single privileged framework – such as that of Frege's *Begriffsschrift* or Russell and Whitehead's *Principia Mathematica* – even for logic. Instead there is an infinite number of possible frameworks: one corresponding to classical logic, one corresponding to intuitionist logic, and so on. And there is absolutely no question of which framework is "correct", for the notion of correctness itself only makes sense once we have antecedently settled on a particular logical framework. (Friedman, 1994)

The 'first problem' to which Friedman refers in the quote above is the problem of establishing, with any epistemic certainty, the much coveted objective basis for logic. According to Carnap, unlike for Wittgenstein, there is no objective basis for logic. At least, there is no knowable, objective basis for logic.

Wittgenstein (that is the Wittgenstein of the *Tractatus*) in his interpretation and endorsement of Frege's notion of analytic truth, holds that logic and analytic truth are absolute (Friedman, 1988, p. 85). This means that there are grounds, of an objective and mind-independent nature, for logic and all analytic truths. Logic is for this reason universal (there is only one logical language) and analytic truths are

¹⁸ There seems to be conflicting ideas about whether Wittgenstein did completely forgo realism about meaning facts. In the introduction to Part 1, I mention that Coffa interprets Wittgenstein differently; as retaining a sort of realism about meaning. This may be a result of the different periods of Wittgenstein's work. Either way, since it is not Wittgenstein I am interested in representing here, I shall not be tempted to resolve the seeming confusion.

founded on primitive and universal truths about meaning. Wittgenstein, like Frege, thinks these truths unknowable. In other words, they acknowledge (post Gödel) that the objective grounds for logic and analytic truth are not provable. However, for them, this implies that the epistemic means available for doing so, i.e. classical logic and mathematics, is inadequate. This fact does not undermine or challenge their commitments to the objectivity about logic and analytic truth (Friedman, 1988, pp. 84 - 86).

Carnap's response is different. The difference between Frege and Carnap's account of analytic truth as 'logical' truth is summarily this: For both, logic is an axiomatic system, or contains a variation of axiomatic systems. This means that there are foundational premises from which other propositions follow logically. But Frege sees the function of logic as that of providing the proof we need for the "universal" nature of axiomatic propositions. The overarching aims of logic are the "simplification" of and "extracting what is universally valid" from such axiomatic systems (Frege, 1974, p. 2). In other words, the rules which tell us how to infer or reduce (back to what is axiomatic) are such that they allow for the discovery of what is essential to the axiomatic systems such as logic. But, Frege holds that all such "simplifications" and "extractions" of validity will be universal and, therefore, objectively so. Carnap, on the other hand, thinks the purpose of logic cannot be unified, nor can the outcome be simplified and/or be universally valid. Logical systems (there are as many as we want), according to Carnap are 'arbitrarily' constructed for pragmatic reasons to serve within particular and varied contexts. It is for this reason, as we shall see in section 3.3.1, that analytically true sentences are particular to a metalanguage consisting of particular meaning postulates and rules for the use of terms.

And it is here that Carnap makes his most original and fundamental philosophical move: we are to give up the "absolutist" conception of logical truth and analyticity common to Frege and the *Tractatus*. For Carnap, there is no such thing as *the* logical framework governing all rational thought. Many such frameworks, many such systems of what Carnap calls *L-rules* are possible: and all have an equal claim to "correctness." (Friedman, 1988, p. 86)

Carnap gets to the abovementioned position in two steps: 1. He rejects a priori knowledge as knowledge of necessary truths, if 'necessity' has any metaphysical component. This means logic cannot be "universal" either. I look at this in the section to follow. 2. Once necessity is not metaphysical it is best explicated as relativised to a language. I look at this in section 3.3.

These two steps together imply that analytic truths are not informative if informative is being so about the extra-linguistic world.

Section 3.2: A background to priori knowledge of analytic sentences

For an empiricist there are at least two options for what to make of putatively 'a priori' knowledge and the sentences which we putatively know in this way:

Firstly, an empiricist might deny that there is anything such as a priori knowledge.

Empiricists with respect to knowledge think that all knowledge is ultimately empirical [...] As a result they must make one of two claims about a priori knowledge that in the end amount to the same thing: either (1) there is no a priori knowledge; or (2) what many have labeled "a priori knowledge" is in fact a posteriori. (Studtmann, 2010, pp. 48, 49)

Denying that anything can be known non-empirically entails also the denial of meaning being non-empirical (i.e. a priori), if meanings are knowable. For Quine, for instance, all meaning is determined by reference to the world. This means that if two terms mean the same thing it is because they refer to the same extra-linguistic state of affairs. This makes meaning is extensional.

Interchangeability *salva veritate* is meaningless until relativised to a language whose extent is specified in relevant respects....Now a language of this type is extensional, in this sense: any two predicates which agree extensionally (that is, are true of the same objects) are interchangeable *salva veritate*. (Quine, 1963, p. 30)

The Millian view is the simplest form of what we may call a *world-directed* or *referential* theory of both meaning and propositional attitudes [...] In saying what someone thinks, on this view, we are saying how things have to be in the world for her to be right (Morris, 2007, p. 160)

Such a view would, naturally, be challenged by a sentence or proposition which seems not to be making direct reference to the world. We think here of the sentences expressing logical principles. Hence, if we seem to have knowledge of the truth of a sentence, it must be assumed that the knowledge is empirical or a posteriori; "Empiricist generally accept the concept of logical entailment from an empirically discoverable fact" (Studtmann, 2010, p. 27). And Mill says:

Why are mathematics by almost all philosophers, and (by some) even those branches of natural philosophy which, though the medium of mathematics, have been converted into deductive sciences, considered to be independent of the evidence of experience and observation and characterised as systems of Necessary Truth?

The answer I conceive to be, that this character of necessity ascribed to the truths of mathematics, and even (with some reservations to be hereafter made) the peculiar certainty attributed to them, is an illusion... (Mill, 1969, p. 18)

If an empirical account cannot be given of a sentence, such a sentence of logic or mathematics, then it should be assumed that such a sentence is not true, nor do we have knowledge of it, by the usual understanding of 'truth' and 'knowledge' (Studtmann, 2010, p. 35).¹⁹

Secondly, an empiricist might accept that there are some sentences of which the truth is knowable *a priori*, but then hold that such sentences are 'analytic' or analytically true. Or, phrased differently, it might be said that they are necessary truths only if necessity is not a necessity about the world. Empiricists, after all, are against knowing anything about the world, or knowledge of the truth of any factual sentences, non-empirically. But, since there seem to be some sentences (like the sentences which seemingly express necessary truths in mathematics and logic) which we do have knowledge of, but certainly do not have empirical knowledge of, they must be different sorts of sentences.

Having admitted that we are empiricists, we must now deal with the objection that is commonly brought against all forms of empiricism; the objection, namely, that it is impossible on empiricist principles to account for our knowledge of necessary truths. (Ayer, 1969, p. 27)

Having thus shown that there is no inexplicable paradox involved in the view that the truths of logic and mathematics are all of them analytic, we may safely adopt it as the only satisfactory explanation of their *a priori* necessity. And in adopting it we vindicate the empiricist claim that there can be no *a priori* knowledge of reality. (Ayer, 1969, p. 42)

This last option, as explicated by Ayer above, must be sure not to fall into the trappings of presupposing or entailing metaphysical commitments of any kind. It is here where Carnap is useful and clear. *A priori* truths of the sort which Ayer describes are products of language formation or a function of linguistic conventions, which are taken to be logical constructs and not objective facts.

¹⁹ Studtmann (2010) spends some time in his book looking at, what he calls, 'shallow meaning facts' and describes them as, what might seem, very similar to analytic truth as endorsed in this section. Whether or not Studtmann's account of shallow meaning facts would be acceptable according to Carnap is doubtful since Carnap would not be shy of calling analytic sentence 'true' or our cognitive command of them 'knowledge'. This is not for discussion in this thesis though.

As Hahn puts it:

Logic does not by any means treat of the totality of things, it does not treat of objects at all but only of our way of speaking about objects: logic is generated by language. The certainty and universal validity, or better the irrefutability of a proposition of logic derives just from the fact that it says nothing about objects of any kind. (Miller, 1998, p. 95)

Carnap, like Frege, rejects the first option above about a priori knowledge. They opt for the second construal of a priori knowledge. But, also like Frege, Carnap denies that the knowledge of analytic sentences can be anything like the rational (i.e. non-sensory) apprehension of their, purportedly, self-evident truth. Carnap rejects the idea that a priori knowledge is intuitive knowledge (Friedman, 1988, p. 82). There is a sequence of events that shows why Carnap, as an empiricist philosopher, rejects the idea of a priori knowledge as intuitive knowledge of self-evident truths. I first discuss this briefly. Then I discuss, also briefly, what it is that a priori knowledge is to Carnap.²⁰

Assume there is a distinction between sentences which express propositions and those which do not. Sentences which express propositions say something which can be true or false. Sentences which express other sorts of things (e.g. commands, questions or norms) cannot be true or false. According to propositionalists (from before and around the 1930s in Western Europe), sentences which express propositions are made true in two steps: the first is that the meanings of the constituent terms are “instantaneously grasped” and the second is that we then “derive the proper axioms and theorems” from these instantly grasped primitive meanings (Coffa, 1991, p. 262). Primitives are terms which are not reducible to definitions. They are therefore sometimes called “undefinables”. Truths known in this way were considered necessary and universal truths; necessary and universal truths about the nature of mind-independent and objective reality (material or not).

When it was discovered, due to some developments in the physical sciences (e.g. non-Euclidian geometry), that what had previously been purportedly thought of as self-evidently true, was in fact not, it eventually called into question intuition as a part of a priori knowledge; when, for instance, as a result of the discovery of Einstein’s theories of relativity, Euclidian geometry turned out not to be applicable anymore under some conditions. So what had been thought of as an a priori and, therefore, necessary and universal truth about the physical world was brought into question (Coffa, 1991, p. 262). This made the account of a priori truths as truths which should be applicable in all situations, or true in all possible

²⁰ In Part 2, section 3 is a detailed argument in support of a particular account of a priori knowledge. This account is consistent in most important respects with what Carnap thinks a priori knowledge is.

worlds, a redundant account of a priori knowledge. This is also part of what inspired some philosophers, such as Quine, to reject a priori knowledge altogether. For such an account assumes that a priori truths have some sort of metaphysical significance; the type which is expressed by a proposition. This is the sort of proposition which is true in all conceivable worlds. But, it turns out this is to fundamentally misconstrue a priori knowledge. There can be no such thing as a priori knowledge of metaphysical truths or a priori knowledge of reality. And this is because there is no such thing as a metaphysical truth which is also a necessity. A priori knowledge is knowledge of something very different to necessities about the world, no matter how intuitively right they seem to us and how indispensable to science they appear to be.

In response to Wittgenstein Carnap adopts the view that previously assumed *self-evident truths known intuitively* were in fact not truths at all, but rather rules, adopted for pragmatic reasons (Coffa, 1991, p. 264). These rules were rules about how to use certain terms, for instance terms such as 'distance' or 'angle'. This changed, fundamentally, also the view of a priori knowledge. To know the conditions which make a rule either true or false, if this can even be sensibly spoken of, is not to know the conditions which would make true or false a propositional sentence. If a priori knowledge is knowledge of rules or norms (grammatical or semantical, depending on which stage of Wittgenstein and Carnap's progression) then it is knowledge of something which has no knowable metaphysical or propositional content. It can therefore not be knowledge of something which is either true or false (Coffa, 1991, pp. 264, 265).

From this standpoint, necessary claims do not tell us anything that is the case both in our world and in many others, as Leibniz thought, or anything that is the case for formal reasons, whatever that might mean, or anything that one is forced to believe due to features of our mind. They do not tell us anything that is the case; so they had better not be called claims or propositions. (Coffa, 1991, p. 265)

So, if a priori knowledge is not knowledge of fundamental necessities about the world, then what is it? Frege holds that all truth must be provable either empirically or non-empirically (i.e. a posteriori or a priori). For Frege a priori justification is the *demonstrable non-empirical proof* of the truth of a sentence. And a priori *knowledge* is the knowledge we have of the truth of a sentence which has been justified by demonstrable non-empirical proof, i.e. a priori. Carnap agrees (Coffa, 1991, p. 262). Most theorists seem to agree that we 'have knowledge' of mathematical and logical sentences. But, since mathematical and logical sentences are the only ones which admit of *non-empirical proof*, this, for Frege, means that all a priori knowledge is of logical or mathematical sentences. And like Frege, Carnap too holds that if a priori justification is non-empirical proof it can only be justification for mathematical and logical sentences.

The sentences which are mathematical and logical are *analytic* (more about this shortly). But for the sentences of logic and mathematics to be *knowable* (i.e. for analytic sentences to be knowable), which they evidently are, the proofs which settle their truth must be provable by means which are accessible to the human mind.

It was natural in this context to take provability as the essential trait of an analytic sentence. While self-evidence was to be discarded it seemed that an analytic sentence ought to be provable by means available to human minds [...] An analytic sentence is conceived of not merely as provable in a purely formal sense. It must be distinguished from theorems provable on the basis of synthetic laws by being true “in virtue of meaning”. (Bohnert, 1963, pp. 412, 413)

The first characterisation of this a priori provability is that of formal procedures such as mathematical procedures (Bohnert, 1963, p. 413). This is easy enough: We use rules for doing mathematical sums or inferring a particular sentence from a set of other sentences. To do this we write the sums using symbols for numbers and functions or we use symbols for variables and constants of a particular logical language.

But not all sentences are sentences written in logical and mathematical notation. Some sentences are written in natural languages. It is tempting to think of expressions in natural language as a posteriori ‘truths’ and therefore provable by empirical means and synthetic laws. But, says Carnap, there is nothing which, *prima facie*, distinguishes an a priori sentence from an a posteriori one. So there is nothing at face value which says a sentence has propositional content or not. So, an expression in natural language as opposed to a formal expression is not an indication of the a posteriori-a priori distinction.

How do we tell them apart then?

When it was still thought that *propositions* can be *known* either a priori or a posteriori this is how they were told apart. The difference between a priori and a posteriori propositions is detected in a three step process (Coffa, 1991, p. 261). The first step involves a comprehension of all the “undefinables” and “primitives” of the proposition. The second step allows us to combine the terms we now understand to make claims using them.²¹ After we have understood all the primitive terms and used them in further claims we now test to see if the claims are true. This is the third step. The suggestion is that we run

²¹ This happens by various means, which need not be discussed here. I discuss one such mean in Part 2, section 2 and the whole of Part 3, where I discuss how implicit definitions work.

through the steps with any proposition (initially not being able to tell whether it is a priori or a posteriori). Once we have completed the second step we might discover that we have full comprehension of the claim (i.e. proposition). If not, then it is only once we have completed the third step, empirical verification of the claim, that we fully understand it. In the case of the former we know we are faced with an a priori claim. And the reason why we have full comprehension of the claim *before further* empirical investigation is because it is true by virtue of the meanings of the constituent terms.

...except for the odd fact that as we complete the second stage, when we finally understand an a priori claim, we notice that there is no need to check the facts at all: Meaning suffices to determine the truth value. (Coffa, 1991, pp. 261, 262)

This then is how we recognise propositions which are knowable a priori. They are knowable a priori when we know their truth by *only* understanding the meanings of their constituent terms, i.e. understanding their meanings without further empirical investigation. This account assumes, as explained from the propositionalists' view, that if the proposition is a priori it is true by virtue of its meaning. However, because it is a proposition or claim it must be able to be true or false. And this has the further implication of its being somehow metaphysically significant. It has content of some kind; either of material matters of fact or of non-material Platonic meaning facts. Either way they are language independent meaning facts.

Once the propositional view had been abandoned, however, and sentences which are knowable a priori are not true or false (i.e. have no propositional content), the nature of their meaning also had to change. Meaning so construed becomes entirely determined by rules or norms; incapable of truth or falsity. So, according to Carnap, to be able to have *a priori* knowledge of *meaning* the meanings of terms cannot exist prior to the comprehension of the "primitives" and claims which contain them. 'Meanings' are not the sorts of things which we can identify, track, find or make corresponding claims about. We are not able to describe how it is that they form relations with other 'meanings'. For a truth to be knowable a priori, meaning has to be conceived in a non-realist fashion.

It should be obvious by now that this attitude, no less than Carnap's fiery condemnations of meaning in the early 1930s, is a rejection *not* of meaning but of a particular conception of it, the picture-theoretic or 'realist' conception of it. In a sense, Carnap and Wittgenstein wanted to insist that all a priori truth is truth by virtue of meaning. If they rejected this formulation, and more generally the appeal to meanings, it is because history and, in Wittgenstein's case, introspection associated that appeal with an explanatory

picture that placed meanings first in the semantic order and then postulated mysterious relations that link them. (Coffa, 1991, p. 266)²²

In Part 3 I show that to be a realist about the meaning of analytic sentences whilst endorsing an a priori account of analytic truth is to endorse the synthetic a priori. Carnap's contribution to epistemology, in the wake of the later Wittgenstein, was undoubtedly his unwavering commitment to the rejection of synthetic a priori truth (Coffa, 1991, p. 259). His account of analytic truth does more work defending this commitment against the synthetic a priori than any other part of his work. Analytic truths, according to Carnap, are without factual content and true relative only to the language system in which they occur. This makes them necessary, but only trivially so.

Even though Carnap rejects, with Frege, the Kantian idea that a priori knowledge is rational apprehension of self-evident truths, his language relative account of analytic truth, means that he departs from Frege regarding the objectivity of truths known a priori.

Section 3.3: Analytic truth as truth relative to a language system

The view that a sharp line can be drawn between analytic and synthetic sentences has been called one of the "two dogmas of empiricism." Whether or not the epithet is justified, there can be no denying that Carnap's development of the analytic-synthetic distinction has had a powerful influence on empiricist philosophers, providing in the minds of many, a fundamental frame of reference for the organization of knowledge and thought. (Bohnert, 1963, p. 407)

This section is a synopsis of Carnap's account of analytic truth as language relative truth. It has four subsections: The first is a brief exposition of his linguistic frameworks as constructed systems containing both metalanguages and object languages. I show how the construction of linguistic frameworks is dependent on the analytic-synthetic distinction. The second looks very briefly at just one or two of the reasons Quine gives for rejecting analytic truth and therefore the analytic synthetic distinction. I then explain Bohnert's resistance to the Quine's objections. In doing so I hope to show what it is that Carnap thinks, counter Quine, the criteria are for identifying analytic sentences. Subsection three offers a brief

²² The picture-theoretic conception of meaning is an account of meaning from Wittgenstein's early period. Summarily, it suggests that the meaning of a proposition is determined by it describing the relationship between language and the world. He viewed propositions as pictures of a kind, which when possessing the right pictorial form will be isomorphic to the world it represents. Propositions, in this sense, mirror the world. Wittgenstein later rejected this conception of meaning. (Coffa, 1991)

overview of why analytic truth is truth by convention.²³ This goes some way towards showing that sentences which are analytically true are not factual, i.e. contain no content of which it can be said it is true, false or indeterminate. To follow is an exposition of analytic truth and necessity. In this section I show that Carnap's notion of necessity is one which is explicated in terms of 'constructed systems, such as linguistic frameworks. This means that necessity is not a metaphysical concept; it is purely linguistic or logical. Necessity so conceived makes it a seminal characteristic of analytic truths.

Section 3.3.1: Linguistic frameworks

For all their analogies with Wittgensteinian doctrine, Carnap's views go far beyond Wittgenstein's in one essential respect: Even though logic and the whole range of what cannot be said were, for Wittgenstein, incapable of truth or falsehood, there was nonetheless a sense in which that odd type of information was responsible to an independent reality, however otherworldly it might be. Carnap's principle of tolerance completely obliterated this dimension of Wittgenstein's thought, and to the extent that it succeeded, it displays an understanding of linguistic frameworks as *entirely* constitutive of meanings rather than as obliquely reflecting an independently given "essence of the world". (Coffa, 1991, p. 326)

To understand Carnap's formulation of linguistic frameworks it is required to take full cognisance of his resistance to any ontological views about facts which might ground these linguistic frameworks. 'Facts which ground...' are the sorts of facts which extend to the truth conditions for a claim about, in this case, the existence or non-existence of linguistic frameworks. 'Facts which ground...(X)', in this sense, form part of a justification for a claim about (X). Carnap insists that a semantic theory which incorporates the notion of linguistic frameworks should not depend on presuppositions about the existence or non-existence of objective facts to support linguistic frameworks.

Carnap assumes that linguistic communication happens in two ways: firstly, we communicate effectively by using symbols of a given language according to the rules we have for using them and then, secondly, we do the aforementioned *as well as* denote something in the world when doing so. Linguistic communication does not always entail the second step, but always entails the first. So, rules for use are always part of effective communication. But because the way in which we speak is often so ingrained in

²³ Of course, what has been written by both Carnap and Quine and their many followers and students about truth by convention is not a little. It is also of deep interest to me. This section, however, gives a brief overview for the purpose of being further explained in sections later in thesis where I give more detailed descriptions and also engage philosophically (argumentatively) with this polemic.

our behaviour it is sometimes hard for us to tell when we are saying things about the world, i.e. denoting, and when we are simply correctly using the rules we have created for speaking about it (Stafford, 2005). But, one might wonder, how can these two events come apart when the chief purpose of linguistic communication is surely to say things about the world?

For Carnap, there is a difference because when we adopt rules for how we should use terms it does not necessarily mean that there is an object in the world which is associated with the term or to which it makes reference. For example the term '10'; there is a rule for how we use it, in fact there are many, but following such rules does not secure a referent for '10'. Similarly, there is not necessarily an object in the world which is associated with the word 'quark' or 'electron'. Similarly, there might be no such object or state of affairs to which 'X is entailed by Y' refers to, because it is not possible to locate a relationship of entailment among parts of the empirical world. Hume taught us this. Yet, there are rules which stipulate how we use these terms correctly.

To be clear, there are rules for the use of *all* words, for those which we know the comparatively unproblematic referents of, such as 'chair', and for those which we do not. So, the distinction is not between referring and non-referring words. The distinction is between the rules for use (of *all* words and symbols, such as the symbols of logic and mathematics) and the linguistic 'event' of referencing, which *only sometimes* occurs.

For Carnap, the distinction between language which we know references the world and language which constitutes the rules for how we use certain 'symbols', whether these symbols happen to refer or not, is at the foundation of an account of analytic truth (Stafford, 2005). He argues that there are two types of languages which 'service' these distinct linguistic needs. Both such languages are part of any linguistic framework (Stafford, 2005). For instance, the linguistic framework of physics will consist of sentences which express rules of use, thus enabling communication among physicists, and sentences which express rules for use as well as facts about the world (i.e. they refer). Carnap, like Frege, realises that not all language is effective (in communication) because it is fact tracking or truth stating. Some language works very well despite it doing neither of the above. This means that a good semantic theory should be able to give an explanation of this, without assuming that the only outcome of linguistic activity is stating true or false claims about the world, even if it might be the case that this is the goal of speakers.

Since we know that natural language emerged as a means of enabling humans to effectively communicate with each other, and not as a means of "finding truth" or any other such modern abstraction, it is

reassuring to find a theory that places its emphasis on linguistic convenience rather than on a search for deep metaphysical insights. (Stafford, 2005)

How does Carnap divide languages into those which are fact stating and those which simply state the rules we have for correctly using the terms of any given linguistic framework? This division happens within the linguistic framework and is also formulated by the linguistic framework.

A linguistic framework is not a natural language like English or Zulu. It is a 'language' like that of physics, organic chemistry, propositional logic or Christianity. A linguistic framework consists of a metalanguage as well as an object language (Ebbs, 2011, pp. 197, 199), or "thing language" (Stafford, 2005). The metalanguage part of a linguistic framework contains all the rules for how to use the lexicon of that language; variables and constants, if there are both. Such rules must always be explicitly formulated definitions (Ebbs, 2011, p. 198). The metalanguage of, for instance, an axiomatised system within physics contains the definitions²⁴ for all the terms of that axiomatised system. Definitions which all belong to one framework bear on each other. The more definitions that are added to the metalanguage of a particular linguistic framework, the more constrained physicists are in how they use such definitions and infer meaning from them (Bohnert, 1963, p. 420).

It is a well-known fact of axiomatics that as one adds postulates or other strictures to a system, the range of possible interpretations or realizations is, in general, progressively cut down, and this would be essentially the force at work here. The system of metalanguages, the tightly interwoven net of definitions of both empirical and logical terms makes misinterpretation increasingly unlikely the more the learner follows out its implications and interrelations. (Bohnert, 1963, p. 420)

The object language of a linguistic framework contains two distinct sets of sentences: one which is the set of sentences which state facts about the real world and the other which state the conclusions from logical or deductive processes. The first set of sentences in the object language employs terms which are defined within the metalanguage, but which make reference to parts of reality. Or at least it is treated as if it does but sometimes, in fact, doesn't (Bohnert, 1963, p. 410). Such sentences which are part of the object language are therefore fact bearing and truth-apt (if truth is correspondence to the world) and are always justified or known, if known at all, a posteriori or empirically (Bohnert, 1963, p. 409).

²⁴ The distinction between explicit and implicit definitions is discussed in Part 2, section 2 and Part 3.

But an object language can also contain sentences which are derived, inferred or deduced from definitions which are part of the metalanguage. Consequently, one says that deductively inferred sentences in an object language are logically derived.

Carnap proposes that we replace the vague sentence 'the truth of logical statements is based solely on their logical structure and on the meaning of their terms' with a syntactical definition of logical truth (analyticity) for sentences of an object language-system LS, stated in a metalanguage MLS: a sentence *s* of a (non-contradictory) language LS is logically true (analytic) if and only if *s* is a special sort of syntactical consequence in LS of the empty set of sentences of LS. (Ebbs, 2011, p. 199)

If sentences are logically derived they are not justified a posteriori. All definitional sentences in an object language derived in this way are logically true and because of this they are justified a priori. All factual sentences in an object language are justified empirically, or a posteriori. For Carnap there is no particular worry that the supposed conventions which comprise a metalanguage, and which then further serve to give rise to analytic sentences in object languages, also are in need of definitions themselves. This would then require another metalanguage. And so on (Ebbs, 2011, p. 210). For some, such as for Quine (to be discussed shortly), the regress which is implied by making something like a metalanguage responsible for meaning, as opposed to meaning being accounted for by referencing to the world, is a further reason to reject the possibility of knowledge which is not empirical. Carnap does not share Quine's concern. For Carnap, whether or not there is a distinction between a priori and a posteriori knowledge was not the point and furthermore it was a confused (metaphysical) question. The point of postulating the distinction is simply that it seems like a good way for scientifically minded philosophers to organise their thoughts about knowledge. The aim, of course, was to avoid 'letting through' factual claims which are not justified empirically.

[Carnap's] goal was not to solve the traditional problem of how it is possible for us to have a priori knowledge, but to reject that problem, which he regarded as confused, and focus instead on specifying linguistic frameworks within which it is clear which sentences are to count as 'L-true' and which ones are to be evaluated only on the basis of empirical observations. (Ebbs, 2011, p. 212)

The set of sentences which is the object language of a linguistic framework and are fact stating are synthetic sentences, or are synthetically true, if true. The set of sentences which is the part of the object language, but are logical deductions or inferences are analytic sentences, or analytically true. On the other hand, *all* sentences which are part of a metalanguage are analytic. This means that analytic

sentences are found in object languages, but no synthetic sentences form part of a metalanguage. In metalanguages all sentences express constructed or created rules or conventions for the use of specified lexicon. All analytic sentences, whether part of the metalanguage or object language are logical truths. This is because they are either conventions which have been invented (i.e. in the metalanguage) using other conventions/definitions about the meanings of terms, or they are the results of logical inference or deduction (i.e. in the object language). In the former case they are tautological constructs and in the second they are logical conclusions (Ebbs, 2011, p. 199). Either way they are logical truths. Analytic sentences are not factual and synthetic ones are.

But, even though the distinction between fact bearing and non-fact bearing sentences *occurs* in the object language, *the rules for saying where and when the distinction is drawn* are formulated within the metalanguage. This is why they are metalinguistic. Such rules might be the “evidential rules” for either analytic or synthetic truths, respectively called L-rules (logical rules) or P-rules (physical rules) (Friedman, 1988, pp. 87, 89). These rules are not part of the object language itself. This means that such rules are also invented conventions, according to Carnap, and say things about the object language, such as where and how to draw the distinction between analytic and synthetic sentences.

Carnap equates the logical truths of a linguistic system with the analytic ones, and he stresses that ‘The analytic–synthetic distinction can be drawn always and only with respect to a language-system, i.e., a language organized according to explicitly formulated rules, not with respect to a historically given natural language’ (Carnap 1952a, p. 432). (Ebbs, 2011, p. 197)

Frege speaks similarly about the distinction between sentences “in the system” and sentences “about the system”.

This step was taken in principle by Frege in his inclusion of precise formation rules specifying the admissible sentence structures in the system of *Grundgesetze*, and drawing his sharp distinction between sentences in the system (object language) and sentences about the system (in the metalanguage). (Bohnert, 1963, p. 409)

It seems to me impossible to not take seriously the analytic-synthetic distinction in an account of Carnap’s linguistic frameworks. This is because it is a function of the non-factual sentences of the metalanguage of a linguistic framework which says what the criteria are for distinguishing logical truths from factual truths in the object language. We’ll now see why it is also the case that analytic truth is

explicated in terms of linguistic frameworks. And if this appears worryingly circular already, this is explained shortly.

Section 3.3.2: The identification (or not) of analytic sentences

The view that truth might be a function of the relationship between meanings of the terms within a sentence, when these meanings are determined by a set of definitions belonging to a linguistic framework is not shared by all. Quine famously argued that there can be no such thing as truth by virtue of meaning, if meaning is what Carnap says it is.

Bohnert (1963) provides an explanation of why Quine's attack on truth by virtue of meaning (i.e. analytic truth) as explicated by Carnap, fails. Bohnert recommends that the prevailing thought that Quine had somehow provided the death knell to Carnap's conception of analytic truth should be treated with greater skepticism.

His (Bohnert, 1963, pp. 414 - 419) brief focus on this aspect of defending Carnap is not what is most important to my rendering of Carnap's account of analytic truth. Nor is it my objective to engage here in the intricacies of Carnap-Quine debate and what others have said about it. Nevertheless, I should briefly make mention of Bohnert's particular argument against Quine regarding the supposed "indefinability" of 'analytic'. I do this because it seems to me that what Bohnert says about Quine's worry serves to further illustrate exactly what it is Carnap thinks analytic truth is. And it is exactly this objective that I pursue at present.

Quine's worry about 'analytic' is that there seems to be no way of defining the term without appeal to further more problematic concepts, such as that of 'necessity' and 'definition' (Bohnert, 1963, p. 414). Defining terms such as 'necessity' and 'definition' prove problematic because they are not obviously extensional. In other words, there is nothing which can be the object of "empirical observation" which we can say is 'necessity' or 'definition'. (Ebbs, 2011, p. 210)²⁵

²⁵ Clarification: we are obviously not here concerned with whether or not there are things written in dictionaries, called definitions. Quine's concern is with the Carnapian claim that analytic statements are equivalent to definitional statements, if the contents of definitional statements is not extensional or the statement is assumed not to refer.

Where there are no extensional qualifications (i.e. referents) of what a term means, meaning is determined by other terms and their definitions. Such as when 'good' means 'a property of a morally right action', where a property of a morally right action' means 'good'. Such explications of the meanings of terms yield tautologies. And this is an awkwardness, according to Quine, which results in the inability to identify an empirically significant set of sentences which are 'analytic'. There are no empirical grounds by which it is possible to distinguish analytic sentences from others for saying that they are definitions or conventions. This, however, cannot suffice for a commitment to such a class of sentences since the classification is then arbitrary and artificial.

Definitions are not to be recognized by any intrinsic quality of definitionness simply because they are the very embodiment of linguistic convention. Ultimately (i.e. when a language is formalized) they can be identified only through the fact of their having been explicitly enumerated under this heading. This sort of answer has seemed to some a confession of meaninglessness. (Bohnert, 1963, p. 417)

How does Bohnert resist this attack by Quine? Firstly, to give Quine a fair representation, we draw a distinction between the definability of the concept of 'analytic' (which is where Quine focusses his attention) and the definability of other concepts *which are considered to be analytic* (which is not explicitly Quine's famous focus, but, in the end, fall prey to the implication of rendering 'analytic' circular). Starting with concepts *which are analytic*; Bohnert explains that analytic concepts for Carnap *must have as a property* that they are circular. So, it is not only *not* a problem that they are circular, it is a requirement. Concepts which are defined analytically are defined by the use of "recursive definitions" (Bohnert, 1963, pp. 411, 415). This, very summarily, means that analytic concepts are defined by other specific, already defined, terms and that part of that definition is also an explicit specification of how the definiendum is *conceptually* and semantically related to other already defined terms, which together act as the definiens. There is no need for extension here. There is, in fact, an explicit avoidance of it.

But what happens when none of the concepts which constitute the definiens are empirical or extensional in any way? Surely, some part of even a recursive definition should somehow 'make contact' with the world? No, says Carnap. The point about such definitions is that they are perfectly suited to "classifications" which are "arbitrary" and "non-natural" (Bohnert, 1963, p. 411). This means that some concepts must be defined without any available extensional property. It cannot be stressed enough that concepts which are thus defined *are expected to be* defined in a manner which requires no mention of empirical matters of fact.

So, applied then to the actual concept, 'analytic', Carnap regards 'analytic' to be itself an analytic concept in the above mentioned manner. It is defined by appeal to other concepts such as 'necessity' and 'definition' which have also been defined recursively. The definition of 'analytic' then entails making explicit what the relationship of 'analytic' is to the non-extensional concepts 'necessity' and 'definition'. So, that 'analytic' can only be defined according to other similarly "problematic" (for Quine) concepts and that no extension is determined for 'analytic' is not only a *not* a problem for analyticity, but it is exactly what is seminal to its character. Quine's requirements are, therefore, inadvertently, a confirmation of exactly what it is that Carnap thinks is analytic about 'analytic'.²⁶ That analytically true sentences are comprised of 'analytic concepts' is a function of these concepts being entirely defined by the constructed linguistic system of which they are part. This means the truth of the sentence is logically determinate; it is determined by the relationships of entailment which exist between the meanings of its constituent terms, irrespective of what the world looks like.

Now the point of these remarks is that this is precisely what Carnap does. And he does it in just such a way that the sentences above, or reasonable facsimiles, are obtainable by applying definitions. The fact that the sentences to which the term is to apply are in fact spelled out by recursive procedures is necessary to the concept's being logically determinate, which, in turn, is one of the characteristics we expect. (Bohnert, 1963, p. 415) [Bohnert refers to examples of sentences which are analytic to Carnap.]

If Bohnert is right about what features Carnap expects analytic sentences have then Quine's rejection of analytic truth (i.e. the truth of analytic sentences) does not have the teeth it is so readily assumed to have. At least not for the reasons he gives in 'Two Dogmas of Empiricism' (Quine, 1963). For Carnap there is a difference between how analytic concepts are defined and analytic sentences are true and how empirical concepts are defined and empirical (synthetic) sentences are true. And analytic sentences are circular and that is part of how we identify them.

What are the "fundamental" (Bohnert, 1963) features (i.e. inherent) of analytic sentences which ensure that they are circular in the way Carnap requires them to be? Carnap agrees that there are no "fundamental" features of analytic sentences. He posits that most sentences (which are merely observable grammatical structures) are *prima facie* incapable of being recognised as either analytic or

²⁶ Ebbs (2011) argues that, contrary to the received view about the Carnap-Quine disagreement about logical truth, Quine did not take himself to have undermined Carnap in the way most followers of Quine think that he has. If Ebbs is right then, perhaps, Quine's rejection of non-extensional definitions was not, to him, the death knell to Carnap's account of analytic truth. 'Inadvertently' here therefore is used assuming the received view: that Quine and his followers thought they had had the last word, but perhaps had completely misunderstood what Carnap thought was seminal to logical truth; that it is tautological. This making the accusation of tautology irrelevant.

synthetic. The reason for this is because there is nothing which, at first glance, means a sentence can be recognised as either analytic or synthetic. And this is because there is nothing about the grammatical structure, the syntactic 'shape', of a sentence which indicates whether it is "in the system or about the system", as Frege would say.

Kant's description of subject-predicate sentences illustrates this to some extent: both analytic and synthetic sentences have grammatical structures involving subjects and predicates and so on. In Kant's world, it is the relationship between the subject and predicates or the implied relationship between the words and world denoted by those words which indicates either an analytic or synthetic 'judgement'. A sentence such as "All bachelors are unmarried men" might be informative, or say something about empirical reality, or it might offer us no factual information at all, despite still having some sort of recognisable meaning to us. It might do both. And this means that if we want to think of a sentence as either analytic or synthetic we must look elsewhere for the deciding criteria.

The reason why the syntactical form of a sentence does not make it either analytic or synthetic is because there is nothing "essentially" or "absolutely" (Bohnert, 1963) either logical or factual about a sentence. Whether it is either logical or factual is decided when *it is decided* how that sentence is to be constructed and what justification it is given. And, as explained above, where this is decided is within the metalanguage which defines the sentence in question. So it is decided according to a convention or rule "about the system". For Carnap, it is a convention because there are no knowable further facts about what to decide to do about the construction of a sentence. For to claim that there are requires an empirical justification of these, and since there is none, we should assume nothing about their existence. To do so would be to make a synthetic a priori claim.

The construction of a linguistic framework or system is a function of choosing and adopting which rules are applied. The choice that Carnap thinks is most relevant to deciding whether a sentence is either analytic or synthetic is a choice about how we *use* the sentence and what *attitude* we have towards it. If the sentence is used as a fully referring or representational sentence it is synthetic, either true or false, and if it is used as a statement about the meaning of a term, or terms, it is analytic (Bohnert, 1963, pp. 423 - 425).

There seems no good reason, however, to suppose that the appellations singling out the various kinds point to differences of a logical nature. It seems sufficient to suppose that they refer only to differences in use and attitude. A single definition, e.g. of "aspirin" as acetyl salicylic acid, may be reportive for the

lexicographer and abbreviational for the chemist; it may constitute an explanative definition for the student and may not “serve as a definition” at all for the child. If there appear to be changes in analytic-synthetic status among these various contexts, it seems more reasonable to suppose that they inhere in statements about these uses and attitudes rather than that they simultaneously apply to the single definition in question. (Bohnert, 1963, p. 424)

So, Quine’s worry about there being no ‘natural kind’ that can be called ‘analytic sentence’ is of no concern to the Carnapian account of analytic truth. It is not an objection, it is simply a description of something Carnap would happily concede.

Section 3.3.3: Truth by convention

For Carnap, a linguistic convention is a specification of syntactical or semantical rules for a language, and a language system is a language organized according to explicitly formulated rules. (Ebbs, 2011, p. 194)

There is no truth by convention; there is only meaning by convention and then truth in virtue of meaning. (Coffa, 1991, p. 321)

Carnap thinks truth is conventionally determined (i.e. ‘truth by convention’) when it is not justified empirically. Any sort of justification which is not empirical, i.e. by observation, is a priori.²⁷ We have already seen, summarily, what it is that Carnap thinks a priori justification and knowledge is. Following from the non-empirical justification and knowledge of a truth is that any such truth, whether a part of empirical science, logic, mathematics or ordinary language, must be completely uninformative (Ebbs, 2011; Stump, 2003). So, if Carnap thinks analytic truths are uninformative he is going to hold that they have been determined by conventions. In the case of analytic truth such conventions are linguistic conventions; “syntactical or semantical rules for a language” (Ebbs, 2011, p. 194). How exactly do linguistic conventions determine truth?

I have explained that there are no natural, extensional or empirical features which might support a distinction between analytic and synthetic sentences. The distinction is drawn according to rules

²⁷ What constitutes ‘observation’ is, of course, by no means obvious. Carnap (1995, pp. 225 - 227) holds that ‘observation’ is used differently by scientists and philosophers. Philosophers generally have a more narrow view; one which posits observation as unaided by technology. Scientists include the use of technology – to varying degrees. I suggest that ‘observation’ includes the use of technological instruments, but excludes instruments which allow for programming.

stipulated within the metalanguage and, furthermore, there is no factual basis for these rules. They are rules which have been adopted for pragmatic reasons, i.e. because they do the work required of them. They are rules like the rules of rugby; they work, but could have been other rules. Sometimes they even change. But they do not change because we find empirical facts which show us these rules were wrong and what would be correct rules for rugby, they change because there are practical reasons for why the new rules for the game are better. Unlike empirical reasons for revising rules, pragmatic reasons are always just reasons among many possible reasons.

In this section I offer a further explanation of why the synthetic-analytic distinction is made within a metalanguage for formal reasons by establishing conventions. I then explain that the truth of such sentences is a function of the conventions which draw the synthetic-analytic distinction as well as the conventions, or definitions, which determine the meanings of the constituent terms of an analytic sentence.

But if 'analytic' is determined in the metalanguage of a linguistic framework and there are many different linguistic frameworks then there is every possibility that there might be many different explications of 'analytic'. And this is indeed the case, according to Carnap. There is no generic formulation of what 'analytic' means. 'Analytic' is defined when determining the conventions specific to the metalanguage in a linguistic framework. This, of course, has the further consequence that what counts as 'analytic concepts' *in the object language* will also be relative to a specific linguistic framework (Bohnert, 1963, pp. 416, 420, 421).

To be sure, stating and proving theorems at each stage requires the logical apparatus of the metalanguage, which may involve its own analyticity concept but confusion will arise only if it is assumed that "analytic-for- L_i " is the same as for "analytic-for- L_{i+1} " are necessarily both instances of some more generic concept of analyticity. Whatever deliberate similarities there may be, each concept is autonomous and sufficiently defined in precisely the way that "sentence-in- L " must be for each language L . (Bohnert, 1963, p. 416)

Despite the plurality of the concept 'analytic' I continue the discussion focusing on what the salient features of analytic truth are, for Carnap. For instance, all analytic sentences will be sentences of which the truth is logically determined within a particular linguistic framework – *even though* the postulates comprising one linguistic system are different from the postulates comprising another. By 'logic' is meant the system of rules and conventions governing how we use terms and make inferences between sentences which contain these terms. A linguistic framework always has a logical system associated with

it. In the case of a natural language this will be grammar, of course. An analytic sentence will be constructed from syntactical postulates (i.e. grammar) and meaning postulates (i.e. definitions). None of this depends in any way on what the world is like. This, of course, means that what make the analytic sentence true are merely the things which ‘make it up’, making it a tautology. To accept a tautology, by using it, is to adopt a convention.

1. Tautologies are understood as conventional stipulations.
2. Tautologies are governed by the use of a specific language.²⁸ This language would tell us what words mean and what statements can be inferred from what statements, based on the rules of inference stipulated for that language.
3. Tautologies are known a priori, but only because they express conventions of language.

(Juhl, C. and Loomis, E., 2010, pp. 27 - 28)

But if analytic sentences are knowable a priori, which they are for Carnap, then they cannot convey facts about reality, whether empirical or not.²⁹ And this means that we take them to not refer to either material or non-material matters of fact if these are considered to be independent of a constructed system such as a linguistic framework. The meaning ‘facts’ pertaining to analytic sentences are constructed or “invented” (Hale and Wright, 2003) meaning ‘facts’.³⁰ They are not the sort of meaning facts which settle truth, but are known a priori.

It is acknowledged by Carnap that if ‘fact’ designates something like definitional facts, or facts stated by sentences “about the system”, the analytic sentences are factual in this regard. But we have established that it is not these sorts of facts which are at the centre of the debate about whether or not analytic sentences are founded in objective facts about meaning. The debate is usually about whether all understood terms can be taken to refer to reality – whether this is to empirical reality or to some sort of

²⁸ “Language” is here understood not as merely a natural language, e.g. English, but more specifically as the English as fully constituted by a specified set of rules and conventions for use, as well as its entire lexicon, including what terms are synonymous with each other.

²⁹ See the introduction for an explanation (Dummett, 2006) of the distinction between empirical and non-empirical facts. Non-empirical facts, if they are, say, facts about meaning, are Platonic.

³⁰ I look in detail at the notion of meaning as invented and truth as stipulated in Part 2, sections 2 and 4 and again in Part 3

Platonic meaning fact. Carnap cautions that an ability to use words properly does not secure the existence either of these types of facts.

In using such words as “crystal”, “cancer”, “salt”, we have the words in mind and are familiar with them and with many other aspects of, and facts about, what they designate and this constitutes our understanding. It should come as no surprise if these terms are defined in terms unfamiliar to us. We must not assume that just because we use a word successfully we have some neat, fixed mental something that corresponds to it and that we merely need to sit down and analyse to arrive at a full definition. (Bohnert, 1963, p. 430)

Analytic sentences meet the following criteria and these criteria are nothing more than part of a constructed linguistic framework or system:

Roughly speaking, I take it that we expect analytic sentences to be true but have no content, to provide no genuine information, to hold in all possible worlds, to be provable without evidence or at least to be true independently of fact, and we expect a proposition designated by an analytic sentence to be necessary and one designated by the negation of an analytic sentence to be impossible. (Bohnert, 1963, p. 415)

The implication of accepting all of the above is that analytic sentences are tautologies. To put it graphically: an analytic sentence expresses things about itself. And in doing so it also says things about the linguistic framework to which it belongs and which is part of determining. To do this it is required of the sentence that it does nothing more than express the logical properties of its constituent terms or between itself and other analytic sentences in the same linguistic framework.

Analytic truths could be treated as ‘tautologies’, statements which do not say anything about the world, but which instead express logical properties among concepts or among statements. (Juhl, C. and Loomis, E., 2010, p. 27)

To be clear: the way in which ‘tautologies’ is used in the above statement is broader than perhaps the standard understanding of a tautology, i.e. as a statement which explicitly repeats the same term/s to make a statement which results, for this reason, as overtly circular, e.g. “Beautiful things are beautiful”. So a statement such as “Good actions are virtuous actions”, according to Carnap, might also be considered tautological. But “Good actions are virtuous actions” is only considered a tautology if any competent speaker, i.e. one who understands the rules and conventions governing a language, understands that “good” is taken to be synonymous with “virtuous”. According to Carnap,

understanding the tautology *is to* understand the conventions of the language in which the statement is a tautology. Conventions do not, says Carnap, to our knowledge, refer to anything beyond the understanding and use or application of that convention. Consequently any attempt to justify rules and conventions – and relationships of synonymy between terms – by facts external to the language itself is considered futile.

The justification of empirical sentences cannot be done merely by understanding the logical relationships between words and sentences in a particular linguistic framework. The only correct way, according to Carnap, of determining the meaning of sentences with empirical content is to produce reduction sentences which consist of the translations of the purportedly empirical language into “sensation language” (i.e. observation sentences, which are sentences where their content makes direct and explicit reference to observable features of empirical reality). Here he uses the example of empirical sentences in scientific language. Carnap advocates the reduction of sentences with empirical content into “observables”. This is the thesis of physicalism.³¹

The thesis of physicalism [...] says roughly: Every concept of the language of science can be explicitly defined in terms of observables; therefore every sentence of the language of science is translatable into a sentence concerning observable properties. I suggested that the reducibility to observation predicates need be required by scientific concepts, since this requirement is sufficient for the confirmability of sentences involving those concepts. (Carnap, 1963, p. 59)

And what makes a sentence confirmable is when the observation sentence to which it has been reduced or into which it has been translated, can contribute to establishing whether the sentence is true or false. On the other hand, if the sentence is either not translatable into an observation sentence, e.g. the laws of nature (Carnap, 1963, p. 57), then there is no way which an observation sentence can contribute to settling its truth or falsity.

A sentence is regarded confirmable if observation sentences can contribute either positively or negatively to its confirmation. (Carnap, 1963, p. 59)

Section 3.3.4: Necessity

³¹ It should be noted here that ‘physicalism’ is sometimes a metaphysical thesis holding a view something like that everything that exists is explainable by physics, or everything is physical. This is not the physicalism of the positivists, as seen above.

Let's assume that there are two types of necessary truths which are expressible by a sentence. The first is the sort of necessary truth like Descartes would have defended such as that all effects have a cause. We call these metaphysical necessities.³² Some might call such necessities 'de re' (Wright, 1987).

The second type of necessary truth is a logical necessity. A logical necessity, or a proposition which is logically necessary, expresses a relationship of entailment. Logical necessities are the sorts of necessities which refer to the relationship between the meanings of terms and the sentences which contain these terms. An example would be when in a given linguistic framework 'electron' means 'a stable subatomic particle with a charge of negative electricity, found in all atoms and acting as the primary carrier of electricity in solids'. There is a relationship of semantic necessity between the definiendum and definiens (whether there are things like electrons or not). We'll call these linguistic necessities. Some might call it 'de se' (Wright, 1987). Linguistic necessities are always logical because they are determined by the logical structure of a linguistic framework. A logical structure, for Carnap, is a set of rules governing the use of the constants and variables in a constructed system. In the case of a natural language, such as English, the logical structure of that language will determine the rules for the use of its grammatical terms (i.e. constants) as well as the definitions of its naming terms (i.e. variables).

Let us start with what a 'logical relationship' is. Firstly, a logical relationship can exist between two parts of the same sentence, when they are taken to be semantically equivalent, and therefore logically interchangeable. In this sense one would not speak about the two parts of the sentence entailing each other, since entailment is usually a term employed when referring to parts of a deductively valid argument. This is the work that 'semantically equivalent' does for an analytically true sentence. Secondly, a logical relationship can exist between definitions comprising a linguistic framework. This is when 'one' sentence has a meaning which is logically consistent with 'other sentences' in the linguistic framework, by standing in some sort of inferential relationship with them. Here we use 'entailment' more aptly as well as 'validity' to express the logical relationship between these sentences. To *stipulate* that there is a relationship between two 'parts' (either parts of a sentence or parts of a linguistic

³² Although, I think this label is ungenerous to Descartes since, what purportedly empiricist philosophers now disparagingly call *metaphysical* necessities, would have been part of the best science of the day. Furthermore, there seem to be enough examples of exactly the same sort of claims in our current best physics. For example the Law of Energy Conservation, which is taken to be true and is fundamental to how experiments are set up and data is interpreted. 'Conventions in science' is a topic which I find fascinating, but will have to leave the research for another project.

framework)³³ is *to say that it will be so*. It is akin to making up a rule: From now on there will be a relationship between two terms or a set of sentences because ‘this’ will *mean* the same as ‘that’. For this to work it has to be done without appeal to language independent facts.

This, of course, means that the relationship between either the terms of a sentence (i.e. an intra-sentential relationship) or between different sentences (inter-sentential relationship) in a linguistic framework is circular. In the case of the intra-sentential relationship one part of the sentence, say the definiens, repeats what the other part means, the definiendum. This is circular. And then, when new linguistic conventions originate from using definitions or “meaning postulates” (Morris, 1963) in deductions the sentences stand in a relationship of entailment with each other because the conclusion bears no more information than the premises. This makes the inter-sentential relationship one of entailment circular too.

In both the cases explained above the justification which has been given to the claim that there is a logical relationship involved is a priori. In the first intra-sentential it is a priori because the relationship is stipulated without reference to any empirical matters of fact (Hale, B. and Wright, C., 2003) and in the second case it is a priori because it is done by way of some logical process, in this case deduction (Bohnert, 1963).

When definitions are extensional, i.e. they define the definiendum by referring or denoting, this has the consequence of the ‘logically necessary’ relationship between the definiens and definiendum designating a ‘logically necessary’ relationship between word and world. In the case of intra-sentential relationships, such as in deductive arguments, ‘logical necessity’ implies a logically necessary relationship between parts of the world. Following Hume’s empiricism, Carnap assumes that there is no sensible way of thinking of any part of empirical reality or other type of ‘non-logical’ (i.e. not logically constructed) reality standing in a logically necessary relationship with another part of non-logical reality. To do so, would amount to making a typically metaphysical claim; one which is a necessary truth about reality or ‘the world’ (empirical or not) (Frank, 1963, pp. 160 - 161).

Carnap divides all propositions having a meaning into three classes: (1) Propositions which are true in virtue of their form alone (*tautological* or *analytical* judgments). These propositions, according to Carnap, say nothing of reality. Among these he counts the formulae of logic and mathematics. (2) Propositions containing logical contradiction; these are false in virtue of their very form. (3) The remaining propositions

³³ I discuss this in terms of implicit definition in Part 2, sections 2 and 4 and Part 3.

are judgments of experience and belong to empirical science and may be either true or false. Now propositions which do not belong to any of these classes are devoid of sense. [...] It is equally clear that Carnap's position is not very original. Long ago Hume divided the objects of human knowledge into relations between ideas and what he calls 'Facts of experience.' Hume also thought that mathematics deals not with an aspect of the real material world but with the ideal relations independent of reality. (Frank, 1963, p. 161)

Robert Feys (1963) explains in "Carnap on Modalities" that for Carnap modal concepts are semantic concepts. This means they are concepts which are explicated in terms of meaning. And here 'meaning' is of the type which is not determined by reference or extension. It is the sort of meaning which is determined in the metalanguage of a linguistic framework – so by analytic definitions. The point bearing most prominently on Carnap's conception of modal concepts is that they are in no way empirical. Because there is no such thing as empirical necessity – this would amount to metaphysics, for Carnap. The following distinctions are central to Carnap's account of necessity and, more importantly for our present discussion, the logical determinacy of analytic sentences. Carnap holds that there are distinctions between (Feys, 1963):

1. The distinction between necessity and logical truth
2. The distinction between logical truth and truth³⁴

We have already said a lot about Carnap's distinction between logical and factual truth. What exactly is the relationship between necessity and logical truth? The relationship is one which implies a very narrow distinction.

Informally, the reasoning goes like this:

1. There are two types of semantical systems, pure semantics and applied semantics. Pure semantical systems are those which inform metalanguages and applied semantics those which inform object languages or descriptive languages. The pure semantical systems are characterised by complete transparency and immediacy of meanings of constants. These meanings are determined for and within that system and are also what constitute that system. By implication, any change in the meanings of the

³⁴ 'Truth' refers, for Carnap, to, what would not be called, something like, inflated or substantive truth. That is, 'truth' which is determined by a correct correspondence between language and the world (language independent matters of fact).

terms employed by the system indicates another system rather than a change to an existing system (Carnap, 1963, p. 54). This makes such meanings 'determinate' for that linguistic framework or system.

2. With the idea of determinate meanings in mind it becomes easier to understand Carnap's notion of necessity. Carnap sees modal logic as no different to intensional logic³⁵: Carnap holds that two concepts have the same extension when they refer "factually to the same thing" if the concepts yield equivalent statements in a material sense (Feys, 1963, p. 288). So two sentences have the same extension if they are materially equivalent (i.e. their empirical content is exactly the same). Two sentences which say the same thing about the 'Morning Star' and 'Evening Star' (e.g. that it is beautiful, for instance) are materially equivalent because they share the same extension. Material equivalence is contrasted with logical equivalence. Logical equivalence is only derived from equivalence between intensions (Feys, 1963, p. 288). The intension of a concept is what is understood by that concept – and what is 'understood', in the aforementioned sense, is determined by the explicitly stated rules and definitions which constitute a linguistic framework. This is why the two sentences stating respectively "The Morning Star is beautiful" and "The Evening Star is beautiful" might not be intensionally equivalent if the speaker or linguistic community do not take 'Morning Star' and 'Evening Star' to mean the same thing.

3. Following from the distinction between intension and extension is the view that intensional language is incapable of accommodating sentences which express factual truths. This makes intensional sentences, sentences which express conventions about the use of terms. They are definitions for the language dependent meanings of terms. If intensions are simply the rules/conventions/definitions which say how we should use a term and not to what a term makes reference then if there is a relationship between such intensions it cannot be a relationship between parts of the language independent world. There can, therefore, be no facts expressed about 'physical reality' in intensional language. This fact about intensional languages was a problem for Quine (Feys, 1963, p. 291). For Carnap it wasn't. The reason simply is that, intensional language can define terms (intensionally) which also happen to have extensions.

Let's see how this works.

We start from a "neutral" (Feys, 1963, p. 291) stance about whether the meaning of a term is intensional or extensional and whether a sentence is interpreted intensionally or extensionally. Terms

³⁵ Immediately to follow I provide a gloss of what Carnap's method of intension and extension is. For now I only offer a brief description – just enough to say what is needed about necessity.

might be defined either intensionally or extensionally; they are not *prima facie* intensional or extensional. It is possible to offer an intensional definition for the term 'bachelor', even when 'bachelor' has an extension. For Carnap, it is the context which decides which interpretation has been given; intensional (i.e. tautological definition) or extensional (i.e. naming of an object). But we have a choice about which to use. The point Carnap makes is a simple one: if the concept is extensionally defined then it does not express a logical truth nor can it stand in a logical relationship with other extensional truths.

Carnap claims he can escape in this way the disadvantages contemplated by Quine, namely that in the intensional language of modalities extensions and factual truths could not be expressed [...] Carnap makes necessity correspond exclusively to L-truth, in the sense of his semantics; of course he does not exclude other interpretations and he repeatedly expresses himself in that sense, but he stresses that L-truth-interpretation makes things clear and he seems very diffident of the possibility of making things clear another way. (Feys, 1963, p. 292)

For Carnap modal concepts (e.g. necessary, contingent) are semantic concepts (Feys, 1963, pp. 290 - 292). This means, 'necessity' means what it does by speakers stipulating their meaning, as opposed to determining the meaning of 'necessity' by some act of referencing to language independent facts of a modal kind. For Carnap there are no known empirical or non-empirical language independent matters of fact which correspond with 'necessary' or 'contingent'. They are, let us say, concepts used to describe how we organise our thoughts about the world. Can this claim be justified by fact? Are there facts which justify Carnap's claim that modal concepts are semantic concepts? No, says Carnap. For the same reason as it would be confused to look for the extensions of logical constants (or what it is that logical constants refer to) it would be confused ask for such justification for claims of modal concepts being semantic concepts; it is part of the stipulated meaning of "necessity" that it has to do with the meaning of terms. The distinction between intension and extension is made within the metalanguage, and not the object language, of a linguistic framework (Feys, 1963, p. 291). And there are no facts which ground the construction of metalanguages. So, a claim about necessity cannot outrun the claim about the meanings of the terms employed in the claim about necessity. Any purportedly factual claims about modality, for this reason, amount to metaphysical claims (i.e. epistemically illegitimate claims, according to Carnap).

For Carnap, necessity is exhausted by logical truth and logic is language dependent and constructed. Sentences expressing modal claims are, therefore, fully characterised by the features that analytic sentences have.

Section 3.4: Intension and extension

Like Frege's distinction between sense and reference, Carnap's method of intension and extension addresses the paradoxes, antinomies or contradictions which occur when names for objects refer to the same object, yet, do not mean the same thing to people when they use them. We have already used the well-worn example of the Evening and Morning Star: even though it is possible to exchange, whilst preserving the truth of a sentence, the referring terms 'Evening Star' and 'Morning Star', it is not necessarily possible to use, interchangeably, their senses or understood meanings. This is because how we use terms can be distinct despite them referring to the same object. Meanings are not necessarily equivalent and interchangeable when referents are factually-equivalent and interchangeable (Davidson, 1963, p. 311). To Frege this means that meaning is not fully determined, or is not *always* determined, by what a term or sentence refers to. Frege thus introduces 'sense' to his semantic theory (Davidson, 1963, p. 312). The sense of a term is what is understood by a linguistic community when using a term and is not determined by what the referents of the terms might be.

For Kant, analytic truth is a function of the relationship between such meanings. But since meaning seems to be entirely subjective, by Kant's account of meaning, Frege rejects Kant's account of analytic truth, saying that it makes analytic truth too dependent on psychologistic factors. This is because whether there is relationship of conceptual containment between two concepts must be subjective *if* the way in which we get to know the containment is a matter of some sort of 'mysterious' (to Frege) rational apprehension particular to a speaker. For Frege the only justification of a truth is 'objective' proof of some kind: either empirical or logical. For a logical proof to be 'objective' it must yield the same results for all speakers. Kant's accounts of a priori knowledge and his account of meaning do not secure such objectivity.

But does 'sense' by Frege's account of it achieve this sort of objectivity? If analytic truth is the truth of a sentence where the senses of the definiendum and definiens are logically equivalent, is 'sense', as conceived by Frege, able to 'service' this requirement for logical equivalence and objectivity? In other words can 'sense' provide what is required for analytic truth?

The senses of two terms, Dummett explains,³⁶ are not logically interchangeable or equivalent in the way that is required for sentences to be analytically true. The sense of a term is too rich or varied a notion (i.e. varied from speaker to speaker or between language forms) to accommodate what is needed for logical equivalence. And logical equivalence is what is required for analytic truth, according to Frege. Frege holds that analytically true sentences must be logically *provable* and sense, if the associated thought of a term, is not logically *provable*.

We have seen that Dummett suggests that Frege's account of analytic truth depends therefore rather on something like intensional isomorphism. Two terms are intensionally isomorphic when they have identical meanings, attributed to them by logical primitives which are explicitly expressed. But because logic is objective, for Frege, logical primitives must be objective. And this means, if intensional isomorphism is dependent on logical primitives that 'intensions' (the 'meanings' of terms, when not determined by reference or extension) are objective too. Frege, therefore, holds that, given the correct logical reductions, analytically true sentences are logically true in an objective way.

For Carnap analytic truth (i.e. logical truth) is truth relative to a language (i.e. linguistic framework).³⁷ Analytic truth, for Carnap, even though logically provable is only provable relative to the rules and conventions of a particular linguistic framework. We have seen in the previous section about analytic truth and necessity that analytic truths, *because they are logical truths*, are necessary. And because Carnap rejects the possibility of any truths about empirical reality (i.e. synthetic truths) being necessities he holds that the set of necessary truths is fully contained by the set of analytic truths. If this is right then no term which names a part of empirical reality, or a sentence which contains an empirical term, can be an analytic truth.

This raises obvious problems, though (Miller, 1998; Davidson, 1963): There are many terms and sentences which seem to do both. What about a term such as "bachelor" and a sentences such as "A bachelor is a man who has not been married"? Is "bachelor", when defined as "A man who has not been married" a logical truth or an empirical/factual and therefore contingent truth? After all, such a term might have a definition based on conventions which are part of a metalanguage (and are therefore all

³⁶ See section 2.3 for an explanation of Dummett's distinction between sameness of sense and intensional isomorphism.

³⁷ See the previous sections 3 for a synopsis of Carnap's language relative account of analytic truth

without empirical content), but also denote something in material reality. As this term, indeed, does. So, we might wonder whether such a term is analytic or synthetic (Davidson, 1963, p. 313).

Whether a sentence turns out to be analytic or synthetic is in part a function of what sorts of things names are taken to name (Davidson, 1963, p. 311). Davidson asks whether names make reference to 'meanings' or to 'entities' (here 'entities' should be taken to be part of the world, or empirical reality). He explains that Frege says that, depending on what the answer is, it is decided whether a sentence is analytic or synthetic; when referring to 'meanings' they are analytic and when to 'entities' they are synthetic. But we have already seen that it is not possible to say, when looking at a sentence, whether its meaning is determined by 'meanings' or by parts of 'the world'. So an empirical justification for the analytic-synthetic distinction is not possible either.

But, says Davidson, Frege's account of sense has as a consequence that 'meanings' are regarded as entities themselves; they are objective and language independent objects or entities (Davidson, 1963, p. 312).³⁸ It should be reiterated; 'language independent' means here that 'meanings' are objects or entities which are *not constructed during the 'free' or 'arbitrary' formation of a linguistic framework*. 'Language independent' obviously does not mean that 'meanings' are objects or entities which have nothing to do with language. So a sense, as well as a reference, can be the nominatum of a name (or naming word). And every time a name gets a new meaning it consequently acquires a new entity to which it refers or which it 'names'. If sense is objectively real it implies that the meaning of sentences determined by the senses of their terms will be determined by a hierarchy of 'senses'. This has the unfortunate consequence of there now existing a seemingly infinite hierarchy of entities involved in any interpretation of a sentence. Davidson suggests that Frege's distinction between sense and reference is too ontologically 'over committed' and is not in any way helpful for explaining how meaning or communication is made possible (Miller, 1998).

³⁸ I have already given a brief rendition of Dummett's defence of Frege's semantic theory; where 'sense' does not serve the objectives Frege has and can therefore not be taken to be part of a description of Frege's account of logical and analytic truth. Dummett instead advocates a modification to Frege's semantic theory, by the use of 'intensional isomorphism'. Davidson gives a different interpretation; he remains focused on Frege's use of 'sense' as a part of what analytic truth is. Whether Davidson or Dummett are right is not my concern here. The point is that the objectivity of meaning, whether determined by 'intensional isomorphism' or by 'senses' as additional semantic 'entities', is a project which fails. Carnap's language relative account and his description of the method extension and intension as one which is based on 'choice' seems to describe linguistic behaviour more accurately.

We can perhaps view Davidson as applying a version of *Ockham's Razor* - "that entities are not to be multiplied without necessity" – to meanings: Davidson will show that everything we want from a theory of meaning can be achieved without bringing in meanings as entities, so that Ockham's Razor tells us that we should not postulate the existence of such entities. (Miller, 1998, p. 250)

Carnap's method of extension and intension is meant to solve the problem raised by adopting a distinction between sense and reference while holding that sense is somehow objective. Because Carnap's method makes all meaning relative to a linguistic framework it immediately eliminates the problem incurred from Frege's semantic theory of sense and reference. Meanings, according to Carnap, are not the same sorts of objective and language independent entities as they are for Frege and furthermore, because any term is defined relative to a particular linguistic framework there can only be one meaning determined for each term by that linguistic framework. In this sense Carnap's method manages a "reduction in entities" (Davidson, 1963, pp. 313 - 314).³⁹ However, says Davidson, Carnap does so by favouring intensions in his semantic theory and seems to lose sight of the importance of the 'word to world' connection in a good semantic theory (Davidson, 1963, p. 324).

A brief exposition of some of the key concepts of the method of extension and intension brings out the fact that insofar as Carnap achieves a "reduction of entities," it is at the expense of extensions (Davidson, 1963, pp. 313, 314)

Davidson's worry is that within intensional language, which seems to be Carnap's chief focus in his semantic theory, no information about the world (i.e. extra-linguistic world) can be expressed. And since intensional language is Carnap's focus and intensional language is *logically* determined, it seems that what Carnap's semantic theory fails to give an account of is how language expresses facts about the world (Davidson, 1963).

Carnap acquiesces that his semantic theory focuses chiefly on intension (Carnap, 1963, p. 911). But he resists the above complaint about the neglect of informative language by reminding us that his semantic

³⁹ Miller (1998, pp. 250, 251) explains that Carnap's system does not manage this. He follows Platt in this regard, explaining that "...means..." requires yet another meaning entity for 'means'. The suggestion for Platt and for Davidson (although their points are not identical) is that meaning is most effectively determined by extension. Of course, and this is not for discussion in this 'gloss' of Carnap's position on analytic truth, extension does not help explain the sentences of logic, higher order maths or even many ordinary language sentences for which an extensional account is impossible.

theory of extension and intension asks that we *choose* how to interpret a sentence. In adopting the method of intension and extension (which is a matter of “practical convenience” in itself (Carnap, 1963, p. 911)) we *decide* in which “context” to interpret the semantic status of a sentence; in either an intensional or extensional context (Carnap, 1963, p. 911; Davidson, 1963, p. 324). A context is a metalanguage (Carnap, 1963, pp. 913, 914). When we choose to interpret a sentence in an intensional context, the meaning of the sentence is determined by the “meaning postulates” of that intensional metalanguage. Usually these are recursive definitions. Such conventions might be the definitions of terms as well as the rules of inference for a particular language. When meaning postulates say that a term, e.g. ‘bachelor’ is to be used to mean ‘a man who has not been married’, then the meaning postulates have established a semantic relationship between the definiendum and definiens.

The consequence of interpreting this sentence within an intensional context is that ‘bachelor’ gets to mean ‘a man who has not been married’ whether there are, or are not, bachelors in the world. This makes the sentence analytic. It also makes it necessarily or logically true, since it is made true, *necessarily so*, by the meaning postulates of the language to which it belongs. When terms and/or phrases stand in a logically equivalent and logically interchangeable relationship with each other, as they do in analytic sentences, the terms and phrases “*logically designate*” each other.

This is truth by virtue of meaning or analytic truth, what Carnap calls L-truth. The second relation [relation of intensional equivalence] which holds between ‘a’ and ‘b’ and only if ‘a = b’ is L-true. (Davidson, 1963, p. 314)

When the sentence is interpreted in an extensional context the term, e.g. ‘bachelor’, is taken to designate or denote ‘a man who has not been married’ in the world. What is meant by ‘designate’ is best understood in terms of a relationship of “correspondence” between the term and empirical reality (Davidson, 1963, p. 321). The consequence of extensionally interpreted sentences is that such sentences are made true by the word to world connection. Such sentences are synthetic and are false if designation fails for some reason or another. Their truth is, therefore, contingent and is verified only by empirical means.

Analytical sentences for Carnap are always sentences which have been interpreted intensionally.

That Carnap's conventionalism about truth and non-factualism about meaning seems to be the most effective way establishing the trivial nature of analytic truths is hard to dispute. That trivial truths are the only candidates for being known a priori is argued in Part 2: I look at two different epistemic accounts of linguistic conventions and one direct argument against intuition being a form of a priori knowledge. All in all the aim of the next part is to argue that without insisting on the trivial (i.e. non-factual) nature of linguistic conventions, it is not possible to argue that they are knowable a priori, without also being guilty of "epistemic arrogance" (Hale and Wright, 2003).

Part 2: A priori knowledge as knowledge of construction

Part 2: Introduction

Wittgenstein's point includes two distinguishable doctrines: (1) The truth value of logical propositions is determined by the character of language, and (2) this determination is embodied in the *constructive procedures that allow someone to "recognize" the truth values in question*. The division between the range of what is linguistically determinate and what is not would eventually become the heart of the positivist conception of the a priori. (Coffa, 1991, pp. 285, 286) [Emphasis mine. C.R]

To be suspicious of a priori knowledge is to be faced with the difficulty of how to explain much of the knowledge we seem to have, but which seems not to be gained from the senses. For instance there seems to be a problem in offering an epistemology which includes a cogent treatment of mathematical truths, logical truths or implicit definitions of many terms which we confidently use (Hale and Wright, 2003).

Sections 1 and 2 do two things: They offer a brief sketch of the concept of a priori knowledge (section 1) as well as explicate seminal terms to be used (section 2) in the argumentative sections to follow (sections 3.1, 3.2, 3.3). By way of introduction I have chosen to focus on three important implications arising from some of the theories about a priori knowledge: 1. That there is none, 2. That it is suitable for knowing only trivial truths and, 3. That not all conceptual truths need be justified a priori. In order to make some sense of the positions available regarding a priori knowledge I have set up an instructive 'template' of sorts. For one part of it I use the distinction between Hume and Mill's accounts of knowledge as an explanatory tool. For the other part I look briefly at Kripke's dissolution of one type of semantic-epistemic pairing; that of 'necessity' to 'a priori'. To do so I make a prudent (for my particular aims and intentions) selection of what I include in this instructive or explanatory tool. I apologise, at the outset, for not being able to pay the proper and deserved attention to the work of these three theorists – particularly to Kripke. But their relevance, to my project, should be obvious by the end of section 1. And the use I make of their positions will not exceed the attention I have given them.

My particular aims are to offer, in the first sections of Part 2, a background to the concept of a priori and, in the later sections, to argumentatively engage some current epistemological theories. There I argue in favour of the non-inferential a priori knowledge of linguistic conventions of a particular type. In the meantime, I use the Hume-Mill distinction about a priori knowledge as a device for explaining the more sophisticated explications and arguments to follow. My citing of Mill and Hume serves only as a background positioning of some important concepts to aid my more argumentative engagement with current epistemological theories (sections 3.1, 3.2, 3.3). Where it sounds as if I am suggesting that Hume and Mill were in some sort of actual conversation with each other, this is only done for discursive reasons. I am fully aware that they were not; Hume was working in the last half of the 18th century and Mill in the last half of the 19th century. I am simply posing their positions about a priori knowledge against each other. For future explanatory efficacy I would like to be able to say a position is ‘Humean’ or ‘Millian’ in one way or another, and know that my reader benefits, as I do, from the broad principles abstracted from Hume and Mill’s theories about knowledge.

Hume distinguishes between a posteriori and a priori knowledge,⁴⁰ and does not, despite being deemed an empiricist, reject the possibility of having a priori knowledge of some truths. The Humean distinction runs as follows: A priori and a posteriori justification are distinct methods of justification and they respectively are either able to justify ‘relations of ideas’ or ‘relations of matters of fact’ (in Hume’s lexicon). When a truth has been ‘justified’ in one or the other manner we say that we have that type of ‘knowledge’ of it; so a posteriori justification yields a posteriori knowledge. Relations of ideas are eventually, from Kant onwards, referred to as ‘analytic’ truths and relations of matters of fact are referred to as ‘synthetic’.⁴¹ If Hume’s epistemological distinction is correct it has one relevant, to my immediate project, implication: The a priori justification of a truth means that that truth is trivial. Only trivial truths are justified a priori.⁴²

Part of Hume’s campaign in favour of the conceptual marriage between a priori knowledge and ‘relations of ideas’ is his view on necessity. Hume rejects the possibility of knowing necessary truths from experience (i.e. a posteriori). There is no amount of empirical or observational evidence in support

⁴⁰ Hume speaks of ‘empirical knowledge’, of course. But, since a posteriori and empirical are less sensitive to issues of location (i.e. theorist location) than the semantic terminology, I have decided to introduce more current terminology at this stage, so that we do not form any unwanted attachment, which will then have to be forgone soon, anyway.

⁴¹ Kant, we have seen in Part 1, uses ‘judgment’ instead of ‘truth’.

⁴² One implication if this is correct, of course, will be that synthetic a priori truths are rejected. And following from this any account of analytic truth which makes it factual (Boghossian, 2006) is wrong.

of a truth which can yield a necessary truth – one that can be no other way. This for Hume is at the heart of the distinction between induction and deduction. Good induction always only gives high probability; and always empirical probability. Deduction gives necessity, but because necessity cannot be gained from experience, such necessities must be *essentially* different to other sorts of truths. Necessity is qualitatively different from even very high degrees of empirical confirmation. Making necessary truths a priori and ‘relations of ideas’ is one way of ensuring that confusions about this don’t arise.

As Hume conclusively showed, no general proposition whose validity is subject to the test of actual experience can ever be logically certain. No matter how often it is verified in practice, there still remains the [logical] possibility that it will be confuted on some future occasion. The fact that a law has been substantiated in the n-1 cases affords no logical guarantee that it will be substantiated in the nth case also, no matter how large we take n to be. And this means that no general proposition referring to a matter of fact can ever be shown to be necessarily and universally true. It can at best be a probable hypothesis. (Miller, 1998, p. 93)

It follows from Hume’s particular account of necessities as being *only* relations of ideas that he rejects metaphysical necessities, i.e. any part of the world which could not be otherwise. The only necessities there are, are logical.

Mill, on the other hand, even though in agreement with Hume about necessity not being a function of empirical confirmation, reaches a different conclusion. Mill rejects necessity altogether since he rejects a priori knowledge. All knowledge is a posteriori and so, for Mill, even mathematical truths are a posteriori and revisable. Mill opens his essay, ‘Of Demonstration and Necessary Truth’ (Mill, 1969) by posing a conditional, suggesting that if all demonstrative sciences *is* science by induction then we can have no certainty of the type advocated by making some sciences “Exact Sciences” (Mill, 1969, p. 18). By exact sciences Mill means mathematics and logic. He then goes on to affirm the antecedent of his conditional; that the basis of all sciences *is* induction and, therefore, there is no exact science – there is no deductive certainty. To endorse Mill’s position about knowledge is to reject that there is any knowledge which is not gained from the senses and, furthermore, to hold that there are therefore no truths which are not revisable on account of empirical information.

...it is customary to say that the points, lines, circles and squares which are the subject of geometry, exist in our conceptions merely, and are parts of our minds; which minds, by working on their own materials, construct an a priori science, the evidence of which is purely mental, and has nothing whatever to do with

outward experience. By howsoever high authority this doctrine may have been sanctioned, it appears to me psychologically incorrect. (Mill, 1969, p. 19)

Very crudely my defence of a priori knowledge is based on Hume's epistemological distinction; that all facts are known empirically and that all knowledge which has not been derived empirically is knowledge of conceptual truths only. Conceptual truths are taken to be non-factual in the sense explained in the main introduction and again in the introduction to Part 1. There are, however, more recent and much more sophisticated accounts of Hume's distinction between a priori and a posteriori knowledge and what is known in either way. I draw from these more recent accounts⁴³ in various sections in Part 2, but it seems to me that the overarching principle remains the same: If the two paths which empiricist philosophers can follow are either that of Mill (i.e. an outright rejection of a priori knowledge) or Hume (i.e. a very singular category of truths can *and must* be known a priori), then what follows is an endorsement of Hume.

I shan't consign any part of this thesis to the very interesting view that mathematics is a posteriori. I do, however, consider in some detail the apriority of logic insofar as it is supposed to be analytic (Boghossian, 2006; Wright, 2004; Hale and Wright, 2003). I also look in section 3.3 at Millikan's (1984; 2006) defence of linguistic conventions as a posteriori. If Mill were right this would have many implications for a project such as this one, since this project excludes the possibility of logical truth being knowable a posteriori. If Mill were to be followed on all accounts of knowledge it would mean that even linguistic conventions are a posteriori. Millikan (1984; 2006) propounds such a view of language.⁴⁴ I argue against Millikan's view in section 3.3; that a posteriorist views of linguistic conventions fail to forward a plausible semantic theory for how many of our linguistic conventions are, in reality, understood.

⁴³ Hale and Wright (2003)

⁴⁴ I could have chosen to use any of a range of naturalistic (a posteriorist) philosophers for the purposes of this section. It could have been, for instance, Quine himself, Dretske, Papineau or Dennett. I was keen to keep my choice contemporary and, therefore, in line with the more current or contemporary choice of theorists investigated in Parts 2 and 3. Dennett would have been an excellent choice in terms of making even easier allegations of the synthetic a priori against him. I don't know much about Dretske. And I did not investigate Papineau in this regard, because I found Millikan before I could. I believe I have chosen, in Millikan, a strong opponent. This is important for obvious reasons. I think of her as strong because her naturalised semantic theory is, in my view, very well worked out and conveniently detailed. But also, her commitment to being a posteriori in her methods is admirably pursued. Even though, in the end, it is not achieved. This, needless to say, will be my accusation. But my thoughts are that if Millikan can stand accused, then no other proponent of a naturalised semantics, whom I know of – but I have not read widely or deeply in this area – will escape the accusation of the synthetic a priori easily.

Whether to be Millian or Humean about a disputed set of sentences (e.g. mathematical, logical or definitional) and the 'propositions' they express is sometimes a function of whether one takes them to be necessities or not. So, one of the ways in which a theorist might argue in favour of either a priori or a posteriori justification of the disputed set is to argue in favour of a particular modal status of such propositions. A Millian empiricist might argue that logical entailments are not necessary and, *therefore*, must be justified a posteriori. And a Humean empiricists might argue that logical entailments are necessary and *therefore* cannot be knowable a posteriori. Such accounts prioritise the semantic status and make the epistemic status a function thereof. However, sometimes arguments about these matters run the other way round; such as, if a sentence is justified and knowable a priori *then* its truth must be analytic and necessary (logically necessary). I assume the priority of the epistemic status – following Frege (Part 1, section 2) and Carnap (Part 1, section 3.2) in this regard. But the arguments, irrespective of which direction they run in, usually have, in one way or another, to do with the modal status of the propositions in question; it either presupposes it or entails it.

We should, however, be cautioned that a position which advocates that some necessities *can* be known a posteriori is *as* departed from the Humean position as a position which holds that it is possible to know propositions about 'relations of matters of fact' a priori (i.e. the synthetic a priori). Miller lays out the options for propositions expressing logical and mathematical truths like this:

...there appear to be three choices available: (1) secure factual significance for the statements of logic and mathematics by denying that they are necessarily true; (2) argue that they are analytic; or (3) reject them as literally senseless, as failing to have literal significance. (Miller, 1998, p. 93)

Mill, according to Miller, famously argued for option (1). Theorists such as Wittgenstein and Carnap argued for (2). I am not concerned, in this thesis, with theorists who have opted for the third possibility. Miller (1998, p. 94) explains that "Mill's view that the statements of logic and mathematics are *a posteriori* is widely rejected". Whether Miller is right about Mill's view being widely rejected or not I leave as a topic of investigation for another project. But there seem to be philosophical positions which do not fall neatly into either options (1) or (2); we soon look briefly at Kripke. In the meantime, Miller is right about this: *If* Hume is right, *then* there are only the three abovementioned mentioned options for mathematical and logical propositions. In other words, those who take Hume to be right in terms of his epistemic-semantic distinctions, must also maintain that, for instance, logical entailments are either contingent *and* a posteriori, or logically necessary, without factual content, *and* a priori. And it would,

therefore, be deeply inconsistent to be explicitly committed to Hume's 'dogma' (à la Quine) but endorse any *other* sort of combination of modal status and mode of knowing.

Kripke, of course, famously argued for the uncoupling of necessity from a priori knowledge. Kripke (1972, p. 34) warns against the often confused usage of 'can' and 'must' in discussions about the relationships between semantic and epistemic concepts. He says that philosophers do not take to heart the significant distinction between, for instance, holding that a truth *must* be justified a priori and *can* be justified a priori. These two terms are respectively responsible for two completely different claims. I concur. Kripke argues that they import a distinct modality to each of, for instance, the following claims 'X can be known a priori' and 'X must be known Y'.

I will say that some philosophers somehow change the modality in this characterization from *can* to *must*. They think that if something belongs to the realm of *a priori* knowledge, that it couldn't possibly be known empirically. This is just a mistake. Something may belong in the realm of such statements that can be known *a priori* but still may be known by particular people on the basis of experience. (Kripke, 1972, p. 35)

Kripke explains that to say that all conceptual truths *must* be justified and known a priori is to say that there is no other way of justifying and knowing conceptual truths. Such a view has particular implications for what we think conceptual truths are, of course. However, he says, to say that all conceptual truths *can* be justified and known a priori is, of course, to say that they might also be known another way. And this, again, is to say something towards the explication of 'conceptual truth'. In section 1, to follow, I discuss Kripke in a little more detail. When I do so it should, however, still be borne in mind with what purpose I have included a mention of Kripke

Despite Kripke's cautioning, and advocating of 'can' rather than 'must', I shall argue throughout this project that 'relations of matters of fact *must* be justified a posteriori' and that 'relations of ideas' *must* be justified a priori'. The purpose of my thesis is to argue for the necessary relationship between 'a priori' and 'conceptual (or analytic)'. However, this necessity is itself a conceptual necessity – as all necessities are. As already stated, the conclusions I draw from the arguments in this thesis are not factual claims. They are metalinguistic tools for the organisation of our knowledge about certain things. I believe there might be other ways of organising our thoughts about a priori and a posteriori knowledge as well as different types of truth. I argue, however, that the Humean distinctions, as further refined by Carnap and some others, is a good (and, to my mind, the best) way to do so, and I give my reasons. So,

when I say ‘must’ and it seems to signify some sort of unpalatable modal necessity as it does to Kripke, the *unpalatability* is based on a mistaken view of the spirit in which I have engaged in this project. The modal implication of my arguments, a necessity no doubt, is a trivial necessity. It is a necessity relative to the language system, which has been here defended in a, hopefully, concise but informal manner. But to use ‘can’ would be to lose what is at the heart of all three parts: a claim about a *conceptually necessary relationship* between ‘a priori’ and ‘analytic’. This I cannot forego. Nor must I.

We now take leave of Hume’s ‘relations of matters of fact’ and ‘relations of ideas’ and we revert back to our already established terminology of ‘synthetic’ and ‘analytic’ and, even more descriptive, ‘non-trivial’ and ‘trivial’.

Part 2 is an investigation of how linguistic conventions are justified and known. Or rather, I look at what it is that we can legitimately take ourselves to know, when our knowledge is a priori. The aim is to argue for two related conclusions: 1. That if a statement or claim is justified without reference to empirical matters of fact then it should be regarded as a non-referring definition, or ‘linguistic convention’. 2. That such linguistic conventions are to be regarded as trivial truths, in the Carnapian sense of ‘trivial’. Even though much of the work for these two related conclusions will be executed in this part, its yields will extend to the arguments I make in Part 3. In Part 3 I argue that the a priori justification, and therefore knowledge, of logical laws must mean that the sentences expressing logical laws are analytic. But that ‘analytic’ must be ‘analytic’ *as advocated* in Part 1.

A linguistic convention is a principle or norm that has been adopted by a person or linguistic community about how to use, and therefore what the meaning is of, a specific term. To study ‘linguistic conventions’, in this discourse, is *not* to study the genealogy of words (or/and sentences) like “Cross from port to starboard” – which perhaps appear as stark examples of ‘conventions’ in language, in this particular case, sailing language. It is not a study of the cultural and social use of terms and how they have become entrenched in our or other’s linguistic behaviour. To investigate linguistic conventions, as done within the ambit of this discourse, is to investigate the metatheoretical positions about how meaning and truth are related to each other and what knowledge has to do with all of this (Dummett, 2006; Wright and Hale, 2003). ‘Convention’, in the latter sense, is used in a more technical sense; to indicate something that works like a definition. The debate is then about what definitions are exactly, and whether or not there is a factual basis for the meanings of our words. An example of a linguistic convention, when it is an *implicit* definition, is “Let’s call the perpetrator of these ghastly crimes, ‘Jack

the Ripper” or ‘The perpetrator of these ghastly crimes is Jack the Ripper’ (Hale and Wright, 2003, p. 6).⁴⁵

A more exact explication of linguistic conventions is in section 2 and then I engage argumentatively in sections 3 and 4. For now, bear with a more superficial introduction; linguistic conventions, by the *standard conventionalist* account of them, define terms irrespective of what the world or facts are like. In other words, whether or not there is one murderer who committed all those crimes, whether or not they are a man or woman, the crimes were committed by some wild animal or strange natural disaster, it is still possible to, meaningfully, use the phrase, ‘Jack the Ripper’. The above convention is, let us say, a suggestion as to how we shall use ‘Jack the Ripper’. If we take seriously this suggestion, or adopt this convention, then it means that there are wrong ways of using the phrase. Such as; we cannot say, in the context of discussing the serial murders of women committed over a particular period of Victorian London, “Jack the Ripper, the foremost inspector from Scotland Yard, will soon discover who committed those heinous crimes”. This would be to use the phrase inconsistently. The nub of what is at stake in our ensuing arguments, however, is that some theorists hold that linguistic conventions work despite settling on a referent or assuming any sort of prior knowledge of what meaning such a phrase should have (Hale and Wright, 2003).

The linguistic conventions we shall consider over this part are, in sections 3.1 and 3.2, the laws of logic. There I talk about laws such as Modus Ponens. It is considered to be a linguistic convention because it determines the truth and fixes the meaning of one or other of its ingredient terms, i.e. the definiendum at the time, without an appeal to any justificatory work (e.g. empirical verification or logical deduction), aside from the act of stipulation. In section 3.3 I consider more general linguistic conventions, such as sentences which implicitly define some term, e.g. ‘implicatures’ in a sentence such as “Consider, then, tokens that are used in nonconventional ways, for example, fresh figures of speech or fresh Gricean implicatures” (Millikan, 2006). Either way, a generalised principle for linguistic conventions could be stated like this, taking ‘*f*’ to be the definiendum in question: “Let “*f*” have whatever meaning it would need to have in order that “#*f*” be true” (Hale and Wright, 2003, p. 6). But the definiendum can be used whether or not the world ‘cooperates’ to make the sentence in which it occurs true. So ‘worldly’ truth is not what is at stake in the truth of linguistic conventions – this is not the

⁴⁵ Hale and Wright use this as an example of an implicit definition. But they regard implicit definitions as paradigmatic examples of linguistic conventions (Hale and Wright, 2003).

sort of truth which is determined by convention. The truth is the sort of truth which is settled by correct use of the term *within* the sentence and *within* its larger inferential network of definitions (Hale and Wright, 2003). More in section 4 about this. In Carnap's lexicon a linguistic convention is a 'definition' or a 'meaning postulate'. Meaning postulates express *norms*, not antecedent facts, about meaning. For Carnap, examples of such norms or principled statements are those which express the laws of logic. But linguistic conventions, as we have just seen, are by no means limited to mathematics and logic. I argue that when our knowledge of meaning is a priori, that the conventions which fix this meaning are conventions of this type. But not just any type of a priori knowledge.

A priori knowledge, as knowledge from inference, we have already come across in Part 1, where I give relatively superficial synopses of Frege and Carnap's notions of a priori knowledge. There the focus was to conceptually tie 'a priori' to 'knowledge from deduction'. A priori justification, therefore, yields logical truths. But it seems that there are many sentences or propositions which are not justified a posteriori, yet are also not the products of logical inference. Examples are rules for mathematics and logic as well as many sorts of definitions. All of these are linguistic conventions of sorts. So, there seems to be a need for some other account of a priori knowledge as non-inferential. So, let's say that, broadly, there are two ways in which we might think of a priori knowledge. The first is as knowledge yielded by inferential processes and the second is a priori, but not inferential. I shall argue that linguistic conventions, which are stipulations of truth, are known non-inferentially a priori. To provide an account of non-inferential a priori knowledge is the task of Part 2.

These are three epistemic accounts of linguistic conventions which I consider: (1) knowledge by intuition, (2) inferential a priori knowledge and (3) a posteriori knowledge. I give reasons in sections 3.1, 3.2, 3.3 why all three of these epistemologies for linguistic conventions should be rejected. I then argue in section 4 that when knowledge of linguistic conventions is non-inferential a priori such conventions are non-referring and trivial. Such an epistemic account provides support for the claim that a priori knowledge of linguistic conventions is knowledge of non-factual statements. In this regard, I marshal support from some recent work by Wright (2004) and Hale and Wright (2003).

In Hale and Wright's paper, 'Implicit definitions and the a priori' (Hale and Wright, 2003), they refer to the conceptual relationship between implicit definitions and non-inferential a priori knowledge as 'the traditional connection'. They defend the traditional connection. My current arguments, however, conclude more broadly; I make claims about *linguistic conventions* (as opposed to *just* implicit

definitions) and the theoretical relationship with non-inferential *a priori* knowledge. What then entitles me to draw support from Hale and Wright (2003) and Wright (2004), since their claim is more narrowly focused?

Hale and Wright's defence of the traditional connection rests on the fact that they see implicit definitions as stipulations of truth and that, *therefore*, such definitions are taken to be metaphysically or ontologically inert. To be metaphysically and ontologically inert means that such definitions do not work by securing referents in the world; they are not taken to denote anything. Implicit definitions are, for Hale and Wright, a case of the "invention" of meaning derived from the "free stipulation" of the truth of the proposition that expresses them (Hale and Wright, 2003). "Free" here should be taken to mean that there are no known facts which tell, one way or another, what would be the correct choice to make regarding the stipulations of truth or meaning. Wright (2004), in 'Intuition, Entitlement and the Epistemology of Logical Laws', argues similarly for the epistemology of logical laws. He argues that logical laws have no knowable/cognisable objective 'foundations'⁴⁶ that permit us to think of them as genuinely truth-apt.⁴⁷ They are freely, or arbitrarily, stipulated. It is based on this trait of implicit definitions, including those defining logical terms, that Hale (2006) and Wright (2004) respectively and together (Hale and Wright, 2003) argue for the *a priori*, and particularly non-inferential *a priori* (as opposed to intuition, inferential *a priori* or *a posteriori*), knowledge of them.

But not all linguistic conventions are either implicit definitions or/and the propositions expressing the laws of logic. Some might be definitions for terms such as 'atom' or 'human being'. Regardless of where or where not the sets of 'implicit definition' and 'sentences expressing logical laws' and, perhaps, 'definitions of physical terms' overlap or come apart, it is the characteristically stipulative nature of implicit definitions, the laws of logic and some other definitions that make them linguistic *conventions* and which they, at minimum, share with all other linguistic conventions. This should be more obvious in the, soon to be defended, account of conventions in Part 2 and Part 3. More importantly, it is the

⁴⁶ I shall use 'foundations' from time to time. What I mean by this is not dissimilar to 'truth-conditions'. Then why not just use 'truth-conditions', which is a much less ambiguous term and more directly related to established discourse? The answer is because the intention is to not beg the question. The point in discourses such as these is that whether logic has truth-conditions, and how we would know them, is in dispute. So, it seems to me, to say we are speaking about the foundations of logic and what these might be, *until* some further, more specific and argued claim is made, serves the purpose of remaining uncommitted until reasons are provided. Wright uses 'foundations' very cleverly in this title "Warrant for Nothing (and Foundations for Free)?" (Wright, 2004, p. 175)

⁴⁷ By 'genuinely truth-apt', Wright means that the truth conditions for such a statement are not language dependent or stipulated; they are objective and stand in a relationship of correspondence to the statement.

stipulative nature of the sentences that express the laws of logic and some other definitions which is the seminal reason, in the arguments I draw support from, for the meanings of such sentences being knowable non-inferentially *a priori*. Propositions that are stipulated, in this sense of the word, are not made true by ‘the world’ in Boghossian’s (2006) terminology or, in Hume’s terminology, by ‘matters of fact’. It is my immediate objective to argue that, if the traditional connection is to be preserved, linguistic conventions *must* be stipulations in this sense. If they are taken to be anything other, such as based in fact or as referring to facts, to say we know them non-inferentially *a priori* is to be guilty of “epistemic arrogance” (Hale and Wright, 2003).

My aim, therefore, is to answer the question about what the conditions are for preserving the traditional connection without succumbing to epistemic arrogance.

But before I do that, section 1 gives a general introduction to ‘*a priori*’. My intention by raising the following examples is neither to obfuscate nor to provide clear and detailed arguments about *a priori* knowledge one way or another. My intention is, rather, to illustrate how confounded the conceptual relationship between ‘*a priori*’ and ‘*necessary*’ (and, of course, ‘*analytic*’) is in the current debate about such matters. Even though I have already made reference to ‘*a priori*’ in my précis of Kant, Frege and Carnap’s accounts of analytic truth, the *epistemic* concept, *a priori*, rather than the *semantic* concept, analytic, is the focus in Part 2. But, once again, discussions of *a priori* knowledge only become intelligible relative to discussions of the trivial or non-trivial nature of truth. Part 2, therefore, is again evidence of the philosophical contact between some specific epistemic and semantic concepts.

Section 1: A brief sketch of *a priori* knowledge

Some standard examples of propositions which are knowable *a priori* are ‘All bachelors are unmarried men’, ‘ $14 - 7 = 7$ ’, ‘Every event has a cause’, ‘If P then Q, P therefore Q’ and ‘It is wrong to torture infants just for the fun of it’ (Russell, 2014). One of the reasons why it is thought that all five of these propositions are knowable *a priori* is because they seem plausibly to be *necessary* truths. However, even if they *are* all necessary⁴⁸ in some way, they are not all sentences expressing the same type of propositions. For instance, ‘ $14 - 7 = 7$ ’ is a mathematical proposition. ‘Every event has a cause’ is a

⁴⁸ If we follow Carnap on what propositions express necessary truths, then they are certainly not all necessary truths. But it is important for the immediate explication to not take this for granted.

metaphysical proposition, 'If P then Q, P therefore Q' is a proposition stating a logical principle and 'It is wrong to torture infants just for the fun of it' is a moral proposition. If they are all necessary they express different sorts of necessities and might call for distinct epistemic treatments.

The most important modal distinction is that between contingent and necessary truth. A proposition is contingently true only when particular matters of fact in the extra-linguistic world obtain. For example the truth of "It is raining outside" is contingent on it actually raining outside in the relevant sense. On the other hand propositions such as "Rain is the condensed moisture of the atmosphere falling visibly in separate drops" are true whether or not there ever has been rain, or whether or not the speaker using the term 'rain' has ever experienced rain. The only requirement for knowing the truth of such a sentence is that it is true that 'rain' is taken to *mean* (i.e. the *sense* of 'rain') 'the condensed moisture of the atmosphere falling visibly in separate drops' within a particular linguistic framework. The truth of the proposition is then based on a logically necessary relationship between 'rain' and 'the condensed moisture of the atmosphere falling visibly in separate drops'. This relationship might exist because speakers say it does. In such cases it is said that the truth has been 'stipulated' (Hale and Wright, 2003). We have seen, in Part 1, that such sentences can be true despite the absence of any corresponding empirical matters of facts. Or the relationship might exist because there are objective and antecedent facts, i.e. facts about the meanings of terms, which determine the relationship between 'rain' and 'the condensed moisture of the atmosphere falling visibly in separate drops'. In such cases the truth of a sentence is determined by these objective meaning facts (Boghossian, 2006).⁴⁹

For example, it might be asked, how a statement such as 'There is no largest prime number' fares if the above suggestion is taken seriously. Does it express an objective logical principle (i.e. a logical fact) or not? Or is it stipulated, thus implying that there might indeed be a largest prime number, *had it simply stipulated* that there is one? Neither of the aforementioned options expresses the correct conception of stipulated truth. To understand the arbitrary or non-factual nature of stipulation as resulting in an incoherence, such as there being *and* not being largest prime numbers, is to have misconceived what stipulation is. Carnap (and Hale and Wright) would say that 'There is no largest prime number' is true by stipulation, *given the further commitments* we have to the linguistic conventions about 'prime', 'number', 'no largest' and so on. It is true *given* our acceptance of the conventions which establish the meanings of these terms and phrases. This makes it conventionally true. What 'stipulated to be true'

⁴⁹ 'Objective and antecedent meaning facts' has been explained in great detail in the thesis introduction as well as in the introduction to Part 1.

does *not* mean is that, free of any specified inferential network of meaning postulates or definitions in which it is embedded, a statement is stipulated to be true. And that, therefore, 'There is a largest prime number' can just as readily, be stipulated to be true standing, so to speak, side-by-side with a stipulation of the opposite. For 'There is a largest prime number' to be true the definitions of the ingredient terms would have to be different. The whole inferential network of definitions/meaning postulates would have to change. And if they were different in such a way that this makes it a logically coherent sentence, then, yes, the opposite could also have been stipulated to be true. But it would be true relative to a completely different linguistic framework. What has, unfortunately for the realist about logic or mathematics, *not* been established by the seemingly indubitable truth of 'There is no largest prime number' is that there is, *in reality*, no largest prime number. What has not been established is that there is *an objective fact*, beyond a stipulated linguistic fact, that there is no largest prime number. All that has been established is that we evidently are deeply committed to the linguistic framework in which this mathematical axiom finds residence and that relative to that linguistic framework 'There is no largest prime number' is true.⁵⁰

What does justification and knowledge have to do with any of this? We have seen already that Frege and Carnap hold that the method of justification, and therefore knowledge, of truths is a deciding factor for whether we take truths to be analytic or synthetic. So, by such accounts, the distinction between a priori and a posteriori precedes the semantic distinction between analytic and synthetic. In this part I argue that implicit definitions, if of logical terms, should be thought of as trivial *since* they are justified a priori. Here then is another argument which is premised on the temporal priority of justification/knowledge over truth.

⁵⁰ I must clarify, at the outset, that I do not defend any sort of fictionalism in this thesis. Not about logic or mathematics or analytic truths in general. Fictionalism states that "Fictionalism about a region of discourse can provisionally be characterized as the view that claims made within that discourse are not best seen as aiming at literal truth but are better regarded as a sort of 'fiction'" (Ecklund, 2009). To say that the laws of logic or mathematics, or that logical truths and mathematical truths, are not literally true is to misconstrue what analytic truth is. Fiction offers a world steeped in metaphor and analogy. It is a dream world, which is, in a sense, not translatable from one speaker to another – because much of it is figurative. Or, at least, its design is such that it is open to interpretation. But in fiction there are no translation or transformation rules. Everything is open to interpretation and no one knows who is right. On the other hand, analytic truth is truth derived from explicitly stated rules. An analytic truth is constrained by other truths which give us no option but to interpret it a certain way. And this is the case even when all those truths are made up. This is why the rules of chess are not open for interpretation, even if they are stipulated. The postulation that chess is a metaphor for life, or some such literary humbug, might form part of a case for why chess is fiction. But this is hardly speaking to the heart of our present philosophical problem. Analytic truths are not metaphorical or figurative; they are either explicitly stated or they are completely explicable. How could a fictional truth and an analytic truth be more different?

There is at least one problem arising for the metalinguistic⁵¹ relationship between a priori knowledge and necessary truth, if necessity is a varied concept, we have seen that necessities are not always thought of as necessities in the Carnapian sense. Sometimes they are thought of as necessary features of the world, such as ‘all effects have causes’ (Descartes) or ‘necessary’ in “language independent, *necessary connections*” (Boghossian, 2006, p. 336). Such necessities are, what could be called, metaphysical necessities. Carnapian necessity, as we have seen, is always linguistic or logical.⁵² So there could certainly not be necessity which is not also ‘language independent’, if one endorses a Carnapian account of necessity. The question then, for instance, arises whether mathematical propositions are necessary in the same way as sentences which say things about the nature of reality, e.g. ‘Every effect has a cause’. Or are they mathematical sentences expressing necessities in the Carnapian sense; are they necessities derived from (i.e. deductively inferred from) the *freely stipulated meanings* of the variables and constants of mathematical sentences standing in conventionally determined relationships with each other? And, even more pertinent, does the *justification* have to be distinct for different types of necessities – if there are even different types?

To answer this question in the negative would require an argument against the inveterate relationships between, on the one hand, analytic and a priori and, on the other hand, synthetic and a posteriori, being championed in this thesis. To do so, one might, for instance, want to present examples of where contingently true propositions are knowable without experience. Evans (Russell, 2014) argues that ‘If actually p , then p' is knowable a priori *yet* is contingently true. This is, we have seen in Part 1, not like Kant’s example of synthetic truths which are knowable a priori, since Kant takes geometric truths to be a priori, yet of this world. It is based on their “strict universality” (Gardner, 1999, p. 53) that they are knowable a priori.⁵³ For Evans the above sentence is a priori, because it expresses an a priori principle; one that cannot be otherwise. It cannot be otherwise that for something to be actually the case it must also be the case. Yet, Evans insists that its truth is not necessary – it might be otherwise – despite being a priori.

What then distinguishes Evans’ example from an a priori linguistic or logical truth, such as those proposed by Carnap? For Evans the contingent nature of the proposition becomes explicit when the variables are quantified. So, if the principle is saying something particular (as opposed to just being a general logical principle as stated above), such as saying something about a post box being red, then it

⁵¹ See my thesis introduction for an explanation of ‘metalinguistic’ used in this context.

⁵² See Part 1, for a careful explication of Carnap’s view of necessity.

⁵³ This has been discussed in detail in Part 1, section 1.

can only be the case that the proposition is necessary when a post box is actually red in every possible world. But that a post box is red is not necessarily the case in every possible world. Hence, says Evans, we have a case of an a priori principle expressing a contingent truth. In Kant's case, however, Evans' example of an a priori judgment would have to express a necessary truth about the absolute nature of reality, which we cannot know from experience (Russell, 2014). So, perhaps, for Kant, the general expression and the particular expression would receive distinct treatments. For Carnap they receive distinct treatments depending on whether the quantified sentence is understood to be meaningful in either an intensional or extensional context.

An introduction to the mine field of theories about a priori knowledge is incomplete without mention of Kripke's contribution to this philosophical terrain. It would be a mistake to not cite, arguably, the most cited account undermining the coupling of 'analytic' to 'a priori'. There are, of course, two ways of doing this: 1. To couple 'synthetic' to 'a priori' and, 2. To couple 'analytic' to 'a posteriori'. Kripke does the latter by suggesting that there are cases of 'necessity' being known 'a posteriori'. But I have posited that necessities can only be logical, or linguistic, necessities. I have, furthermore, given a detailed account of what it means to be a linguistic necessity according to Carnap, in Part 1. I have explained that Carnap's account of necessity renders it unsuitable for knowing empirically. So, if Carnap is right then Kripke must be wrong. But, staying rather with our present instructive tool, at the very least, if Kripke is right then Hume is wrong and I am, on the whole, wrong about trivial truth. Let us see why.

Kripke, as we have seen already in the introduction to Part 2, warns against assuming the philosophically rigid relationships between necessary and a priori and contingent and posteriori. (Kripke, 1972, pp. 35 - 38).

The terms necessary and a priori are not obvious synonyms. There may be a philosophical argument connecting them, perhaps even identifying them; but an argument is required, not simply the observation that the two terms are clearly interchangeable. (I will argue below that in fact they are not even coextensive – that necessary a posteriori truths, and probably contingent a priori truths, both exist.)

(Kripke, 1972, p. 38)

He forwards an example of a proposition of which, he says, the truth is necessary and the justification for, and knowledge thereof, a posteriori: "Hesperus is Phosphorus" (two names for the same planet). The necessary status of the truth is determined, according to Kripke, by the fact that, given the rigid designation of the two names to the same object, there is no possible world in which Hesperus is not

also Phosphorus. However, says Kripke, given that the truth is only determined *after* the experiential knowledge of both Hesperus and Phosphorus actually referring to the same object or being extensionally equivalent, the justification and consequent knowledge of the proposition is a posteriori (Kripke, 1972, pp. 94 - 99).

The compressed response to Kripke is this: Let us assume that the naming of an object is a contingent matter of fact, i.e. there is/was nothing necessitating the naming of Venus as Hesperus nor as Phosphorus. Kripke agrees. That many names can be given to the same object is evidence of the arbitrary nature of naming – across language groups and even within language groups (Kripke, 1972, p. 77). In fact, our present example is a case in point. After the naming events it is then discovered, a posteriori, as Kripke says, that ‘Hesperus’ and ‘Phosphorus’ name the same object. They now both “rigidly” designate a certain planet visible from Earth. We therefore have, at the very least, a factual truth about two viewings of, what seems to be, two planets over 24 hours; the truth being that those two viewings are, in fact, of the same planet. However, now that we know (a posteriori) that ‘Hesperus is Phosphorus’ we might ask whether this claim is necessarily true or contingently true. Kripke answers, yes it is necessarily true, and I answer, no. Kripke’s reason is that there is no possible world in which Hesperus cannot be Phosphorus after the ‘a posteriori’ discovery of the rigid designation of the two terms to the same object. Hume would say that the a posteriori discovery of this relationship of identity is irrevocably a contingent matter. For Kripke, the identity relationship, so conceived, becomes a necessity.

Here is my reason for denying the necessary status of ‘Hesperus is Phosphorus’:

If the co-extensiveness of these two names has been established conclusively, then we simply have a case of a true fact, which happens never to be revised because we happen to be right about the co-extensiveness. But to call this a ‘necessity’ is an equivocation of ‘necessity’. It is simply a true fact; a true fact which is also never revised does not become a necessary truth. There is, of course, no reason why Kripke should not give his own explication of ‘necessity’ (such as the one just refuted by me). But to do so is to confuse at least two ways in which ‘necessity’ is used within the established discourse; that it is intensional and that it is trivial. Kripke would deny both these features when pertaining to his explication of ‘Hesperus is Phosphorus’. So, in having argued, in the way that Kripke does, that there *are indeed* necessary a posteriori truths does not seem, to me, to settle the matter at all. All that has been established is that there is an empirically determined co-extension. If it is empirically determined, even if never revised, it cannot be a trivial truth. This is the point that Hume makes about his absolute yoking

of analytic to a priori and synthetic to a posteriori. A truth cannot be analytic, and certainly not trivial, if it has received its justification a posteriori. In any event, what Kripke has done, at most, is given a different explication for 'necessity'; necessity as an *absolute* empirical truth. To Carnap, 'absolute empirical truth' is an oxymoron. To the contrary, had Kripke managed to show that a necessity, such as would be conceded by Hume and Carnap to be a necessity, is something which can be known a posteriori, then he would have achieved his aims; to unsettle the idea that necessity "must" be known a priori. To say that an *absolutely* true empirical statement (e.g. one expressing an unrevisable identity relation) is a necessity is, however, to my mind, to change the goal posts. Nothing other than a new explication of necessity is on offer, from Kripke.

The seminal contribution that Kripke's semantics makes to my already established Hume-Mill 'device' is to add to it this moral: To argue against the synthetic a priori is not only to pay attention to the illegitimacy of knowing synthetic truths a priori, but it is also to proffer that the concept 'a priori' is a part of an explication for 'trivial truth', and therefore 'necessity' (and finally, 'analytic'). This is Kripke's mistake and also why it is important, to this thesis, to make mention of Kripke. From here on, therefore, to refer to 'Kripke's mistake' is to refer to the mistaken view that necessity can be known in any other way than a priori (without first changing what 'necessity' means). On pain of inconsistency then, agreeing with Kripke asks for dissent with Hume.

I have been making claims to endorsing a particular sort of empiricism; Humean empiricism which I take to be a precursor to the empiricism of the logical positivists, such as endorsed by Carnap. My evaluation of Kripke's position, despite Kripke advocating the *a posteriori* (i.e. empirical!) justification of a truth, I have maintained is contrary to the empiricism here endorsed. Does this make Kripke a rationalist? I am not able to make such a judgement without a decent study of Kripke's work. But to answer this question is not required for the advancement of my case. I am also not particularly interested in what makes arguments rationalist arguments, since there seem to be at least a few interesting cases where rationalist justification is not the overt objective, yet certainly the inadvertent outcome.⁵⁴ I am, therefore, less interested in the labels of 'empiricism' and 'rationalism' and more interested in offering principled arguments against what seem to be ill-conceived (by Humean empiricist standards) epistemological and semantic theories.

⁵⁴ In Part 3 there is Boghossian (2006), in Part 2 Boghossian (2003) and in Part 2 Millikan (2006).

This being said, perhaps because ‘rationalism’ is contrasted with ‘empiricism’, ‘rational grounds’ and ‘empirical grounds’ are often also contrasted. Given this contrast, does a priori knowledge have any relation to ‘rational grounds for belief’? Yes, *but no more or less* than a posteriori knowledge has. It is as irrational to have the wrong ‘belief’ about what counts as good empirical evidence as it is to be irrational in some other way, such as to be ‘illogical’ – in the narrow sense of the word. ‘Rational’ and ‘irrational’ are not terms which pertain uniquely to ‘a priori knowledge’. But its *particular* connection might be something like this. For a priori justification to offer rational grounds for belief, it must (1) constitute the logical demonstration (inferential a priori justification) of a proposition, such as a logical deduction. If the justification is non-inferential and a priori then (2) the grounds are rational when a stipulation of truth is exclusively attributed to a proposition which requires no further empirical work to determine its truth or meaning.⁵⁵ I shan’t make much of ‘rational grounds for belief’ in this thesis. I don’t think it necessary for my account of a priori knowledge. To the contrary, an appeal to ‘rational grounds’ seems to erode the central message about a priori knowledge as explicated here; that it is either the product of logical demonstration (when inferential) or of arbitrary stipulation (when non-inferential).

Nevertheless, I consider here, briefly, BonJour’s (Russell, 2014) case for a priori knowledge not being demonstrable knowledge (nor knowledge of a stipulation). To have ‘warrant’ for a belief in the truth of a proposition is being able to demonstrate knowledge of the truth conditions of that proposition. If this is correct then there are consequences for some accounts of a priori knowledge. Consider that there are accounts of the a priori which say that a priori justification does not require a *demonstration* of a direct grasp of the truth conditions of a proposition.⁵⁶ BonJour makes a case such as this one for a priori justification. He calls this type of justification and consequent knowledge, ‘rational insight’. He lays out the conditions for a belief to count as a rational insight. In short, these are that the belief must be taken to be necessarily true, given the following three conditions are met during the formation of this belief: 1. That there has been considerable contemplation including a clear and careful understanding of the contents of the belief, 2. And that the person has an approximate understanding of the concepts of ‘logical – and ‘metaphysical necessity’ and 3. That the person having the belief does not stand in any sort of dogmatic relationship to the belief (Russell, 2014).

⁵⁵ Hale and Wright’s account of non-inferential a priori knowledge. Also, Wittgenstein and Carnap in theory later phases.

⁵⁶ BonJour, in fact, makes an even stronger claim: That a defining characteristic of rational insight is that it *cannot* be demonstrated.

But for rational insight to be a useful *epistemic tool* Bonjour must offer reasons for how the above criteria will enable rational insight to be distinguished from *irrational* insight. In other words, the criteria above must be able to distinguish knowledge from that which is not knowledge. However, by this his critics do not mean that he must give delineating criteria (this he has given), but that he must offer support for why he takes the aforementioned conditions to be the right criteria for delineation. The reasons Bonjour needs to offer will amount to something like a metajustification (e.g. such as offering a justification for logic or science, which are themselves forms of justification) (Russell, 2014). Bonjour admits that he offers none. He cannot offer an empirical metajustification for 'rational insight'. He thinks of a defence for 'rational insight' as a principled defence. There aren't any empirical facts which could offer justification for a principle. Nor can he offer an a priori metajustification – since this would amount to a circular argument. After all, he would then be trying to offer a priori justification for a priori justification – thus already assuming what is in need of a defence (Russell, 2014). Bonjour's response is simply that all that is required from his defence of rational insight is that the principle *is* a true epistemological principle (i.e. it accurately describes that we can, in fact, have rational insight of the truth of some beliefs) not that it can be *shown* to be true (Russell, 2014).

Can Bonjour be defeated on the grounds given above; the impossibility of an empirical defence of his epistemology as well as the circularity of a rational defence of it? Yes and no. Yes, but then all epistemologies are defeated thus. For instance, there is no empirical evidence to support even an epistemological theory that holds that *all* justification should be empirical. This too is a principle. *Should* all justification be empirical? An affirmative answer to this would immediately demand an empirical substantiation – of which there is none, of course. Similarly an argument in defence of inferential a priori knowledge of logical laws *assumes* the rules of inference already in making the defence. Once it is accepted that all epistemologies run up against the same sorts of justificatory problems, for reasons of consistency, Bonjour's cannot be isolated on *these* grounds.

This being said, there are good reasons to reject 'rational insight' as an epistemological tool. I discuss 'rational insight' (as 'intuition') in section 3.1 of this part where I investigate Wright's (2004) arguments against intuition as a form of a priori knowledge. Boghossian (2003) also makes similar arguments. I concur with Wright and Boghossian.

Given the narrow restrictions placed on the a priori, why choose Humean instead of Millian empiricism? That logic, mathematics and linguistic conventions might be cases in point for empirical explanation surely is, at least, a considerable possibility. Mill, as already noted, held that all truths are empirical and

all are revisable. And if there is a chance of these things being empirical rather than purely rational, would a philosopher with an empiricist bent not be better placed to just bite the Millian-Quinean bullet on this?

Why are mathematics by almost all philosophers, and (by some) even those branches of natural philosophy which, though the medium of mathematics, have been converted into deductive sciences, considered to be independent of the evidence of experience and observation and characterized as systems of Necessary Truth?

The answer I conceive to be, that this character of necessity ascribed to the truths of mathematics, and even (with some reservation to be hereafter made) the peculiar certainty attributed to them, is an illusion... (Mill, 1969, p. 18)

The one virtue of being Millian instead of Kripkean is that Kripke's mistake is avoided. If Mill holds all knowledge is a posteriori and there is no such thing as necessity, then at least this does not offer offence to my campaign to conceptually, exclusively, couple analytic to a priori and synthetic to a posteriori. To deny necessity and a priori knowledge is much more consistent with my aims than to say that necessity can be known a posteriori (i.e. Kripke's mistake).

Carnap's method of intensions and extensions is particularly useful when keeping logical necessity (which is the only kind of necessity there is to a Humean empiricist) and a posteriori justification apart. Carnap holds that deductions express intensional sentences; they are sentences about the relationship between meanings of terms (Bohnert, 1963).⁵⁷ And such meanings, embedded thus in a logical inference, cannot be extensional, even if the extensions are readily available. If we take 'A' and 'B' to be *extensional* variables, then it follows that a consistent reading of 'entails' makes the relationship of entailment also extensional. Extensions are not language dependent. They are therefore known a posteriori, if known at all. But once empirical justification is an appropriate method of justification the relationship is one of contingency. And this makes the whole sentence an informative one and not a tautological one. Yet, 'tautological' is standardly what the relationship between the premises and conclusion of a valid deduction is taken to be; there is no more information in the premises than there is in the conclusion. It is therefore a problem that a tautological relationship, because deemed to be something like *extensional equivalence*, has to be empirically justified. Thus conceived 'entails'

⁵⁷ I have discussed this in Part 1, section 3.4.

expresses a contingent relationship, making it factual or informative. This, says the Humean empiricist, is an inherently unstable position.

Miller quotes Hahn, whom he regards as Humean.

Logic does not by any means treat of the totality of things, it does not treat of objects at all but only of our way of speaking about objects: logic is generated by language. The certainty and universal validity, or better, the irrefutability of a proposition of logic derives just from the fact that it says nothing about objects of any kind. (Miller, 1998, p. 95).

Hume, of course, does not give much thought to logic and mathematics, but does take conceptual truths (truths about the relations of ideas) to be necessary. We have already seen Carnap's arguments for why conceptual truths, *only*, can be logically necessary; *because* they express no contingent facts about the world, save for the 'facts' internal to language or logic and based on a finite set of meaning postulates.⁵⁸

So, when we're Humean, we now have this situation: Truths, if necessary, *cannot* be knowable a posteriori. And it is also this very property, i.e. their particular modal status, which determines that they express no information other than what is generated by language. Because any other type of information would require a posteriori justification. If Hume is right about this then the Humean empiricist is compelled to take any proposition they think of as logically necessary to be without extra-linguistic factual content (i.e. it must be uninformative or trivial).⁵⁹ This would include propositions such as mathematical ones, as well as propositions stating logical laws or other definitional sentences. But not everyone thinks Hume is right. Some hold that there are some necessities which are a posteriori. We have already seen Kripke's example.

Ayer explains the logical positivist thesis about the non-factual and trivial nature of logic and mathematics as follows (Miller, 1998, p. 95): The necessity of logic and mathematics, as well as the necessity of propositions which express something about the meanings of terms (i.e. definitions) is due to the fact that such truths arise from *conventions*. All these types of propositions are analytic, according to Wittgenstein, Carnap and other logical positivists, in the wake of Hume. These conventions, Ayer explains, "simply record our determination to use words in a certain fashion" (Miller, 1998, p. 95). It is the fact that conventions are 'constructs' of our own making which allows us to say that they give rise to

⁵⁸ These are *not* the sort of 'facts' which are under dispute though. See my explanation with reference to Marlow and Goethe earlier on in this section.

⁵⁹ See the introduction of the thesis for an explanation of 'extra-linguistic'.

necessary truths – the propositions which result from our conventions are necessarily true, *relative* to the conventions stipulated by us. Recall here the example given of the stipulation, ‘There is no largest prime number’.

Mathematical truths and logical truths arise from our conventional connections between the symbolic expressions of our language. In denying such truths, then, we deny the very conventions that make the meaningful use of language possible. The denial of an analytic truth is in this sense “self-stultifying”, and accounts for the necessity which analytic statements possess. (Miller, 1998, p. 95)

According to Ayer, it is the necessity (linguistic/logical), and the consequent triviality, which allow for propositions such as these to be knowable a priori. Or, my view and more in line with the arguments endorsed in this thesis, a better way of putting it: It is the a priori justification of these ‘expressions’ which determine that they are trivial. Either way, an epistemology which permits the justification of propositions which have no factual content, or are uninformative, is problematic for theorists such as Quine (who is a Millian empiricist, by our present criteria). It seems, to me, impossible to give a decent ‘brief sketch of a priori knowledge’ without citing Quine. So, in the following section, where I explain what linguistic conventions are, Quine will feature more prominently. There I contrast Quine and Carnap’s accounts of truth by convention.

To start, Quine’s concern should be aired: Some conventional accounts of truth and meaning lead to circularity and, therefore, cannot explain truth or meaning. If definitions or the propositions of mathematics and logic are analytic and not empirically significant, then we have not justified mathematics and logic and semantical systems at all (Miller, 1998). Because if we cannot alight upon a factual basis for logic or mathematics, we are compelled to accept that logic and mathematics justify themselves. Quine, of course, maintains that the onus is on the empirical sciences to do so. And if the empirical sciences cannot justify logic, mathematics and other semantical systems then these remain unjustified (Miller, 1998, pp. 98 - 101). For Quine an appeal to conventions as records of our “determination to use words a certain way” leaves such conventions unjustified. This is exactly the sort of conventionalism Carnap endorses (to be discussed soon). Similarly, that the *meanings of* mathematical and logical symbols might serve as the *justification of* mathematical and logical systems leads to an infinite regress. For Quine meaning must, therefore, be extensional (Quine, 1963, pp. 20 -

46). He famously makes a case against the notion of semantic intension. This is because the system is then, so to speak, self-referential.⁶⁰

Once again, Quine is significant here because if he is right about this then it follows that Humean empiricists are wrong. That analytic truths are justified by the (non-extensional) meanings of terms is a cardinal tenet to Hume's account of the analytic; for a sentence to be 'analytic' it expressed 'the relations of ideas'. Moreover, if Quine is right then Carnap is wrong. Here is a demonstration of Quine's 'circularity' (Miller, 1998). Miller shows why Quine holds that truth cannot be conventionally established. Not for anything, including truths of logic (i.e. logical principles).

For the quote immediately below:

'5' refers to a combination of sentences which have a logical form, the same logical form as another bundle of sentences, '1'

'1' is supposed to offer the justification for '5'

'5', however, is true by convention and necessary

And now:

The dilemma faced is thus as follows: We either suppose that (5) is true in virtue of convention, in which case our account leads us off on an infinite regress, because we have to presuppose logic itself in order to derive the relevant convention. Or, on the other hand, we suppose that (5) is not true in virtue of convention, in which case we have conceded that the logical positivist account fails with respect to (5)... As Quine himself sums up the matter "the difficulty is that if logic is to proceed mediately from the conventions, logic is needed for inferring logic from the conventions". (Miller, 1998, p. 110)

For philosophers of the Millian type, like Quine, logic and mathematics, as well as some aspects of semantical systems, are to be justified according to further facts of the matter which are *not* within, or even like, the systems themselves. Even purportedly analytic sentences, expressing the definitions of terms, are factual, because there are facts of the matter which serve as the *truth-conditions* for such sentences. The problem for the Quinean empiricist philosopher, such as Millikan (2006), is how we are

⁶⁰ Conventionalism has been discussed in great detail in Part 1, section 3.3.3 and will be discussed some more in the following section.

supposed to justify the claim that ‘Knowledge of conventions is a posteriori’, when what we must know in this way is nowhere to be found in the empirical world.⁶¹

I have given a broad outline of a priori knowledge and with it the problems which accounts of a priori knowledge face. I now discuss why linguistic conventions, whether definitions forming part of a natural language or the definitions of logical terms, are not knowable by intuition, a posteriori or inferentially a priori. I then make a case for why linguistic conventions are knowable non-inferentially a priori.

Section 2: Implicit definitions as linguistic conventions

Part 2, as already noted, is about the *knowledge* of trivial truths. I have already made explicit my intention to focus on non-inferential a priori knowledge. And to my mind there is no more effective *modus operandi* for showing what is required both of our conception of a priori knowledge as well as trivial truth, than to look at the knowledge we have of linguistic conventions. To do this I narrow my investigation to look at implicit definitions (sections 3.1, 3.2, 3.3). In sections 3.1 and 3.2 I aim my arguments specifically at the laws of logic, which I take to be examples of implicit definitions for logical constants. In section 3.3 I broaden my arguments to linguistic conventions in general, in order to engage Millikan on this topic. Since part of the explication of non-inferential a priori knowledge is ‘stipulative truth’ I first provide an explication of ‘linguistic convention’, ‘implicit definition’ and ‘stipulation’. This is the task of this section.

I have already made explicit that I take a linguistic convention to be a principle or norm that has been adopted by a person or linguistic community about how to use, and therefore what the meaning is of, a specific term.⁶² Conventionalism’, when pertaining to language, is a theoretical position which holds that the meanings of terms are yielded by such conventions. Conventionalism, however, does not issue as a neatly homogenised thesis. And, plainly, this is because there is disagreement both about the nature of conventions as well as how we are supposed to know them. For example, in Part 3, we see an account of implicit definitions which renders them incompatible with stipulative truth. We shall there see how this impacts on conventionalist accounts of meaning.

⁶¹ To address this problem and offer solution is the task of Part 2.

⁶² Adapted from the *Oxford Companion of Philosophy*. (O’ Hear, 1995, p. 165)

I remind briefly that conventionalism is taken here to be a theory about truth, or a certain type of truth. Conventionalists about meaning might therefore seem to be a misrepresentation of what conventionalism is about. But it isn't. Very simply; conventionalism about meaning holds that meaning is fixed in a very particular sort of way when truth is determined conventionally. Conventionalism about truth implies conventionalism about meaning (Coffa, 1991). This would have been evident by the end of section 3.3.3 in Part 1, where I discuss Carnap's conventionalism.

Famously, Quine rejects Carnap's type of conventionalism (Ebbs, 2011). For an illustration of this we turn briefly to conventionalism in science. Science seems to provide us with a clear example of where method of justification (a priori or a posteriori) might lead to distinct ways of deciding on 'truth' (trivial or not), where truth is taken to be a semantic concept. Hale and Wright (2003, p. 1) also draw connections between implicit definitions used in science (to define theoretical terms), as paradigmatic examples of stipulations.

Quine holds that there seem to be some "postulations" in science which have been accepted by scientists for reasons which are not strictly empirical. That is, they are sometimes accepted for reasons of elegance and convenience (Ebbs, 2011, p. 195). Quinian conventionalism holds that acceptance (into scientific theory and practice) is informed by what is deemed to be useful to science. Any acceptance of postulations, which is not directly supported empirically, must therefore be because the postulation is integral to and consistent with the best scientific theories already accepted – this is what is meant by being 'useful'. Ebbs (2011, p. 195) goes on to explain that Quine says that such postulations are accepted as true until they are disproven. This is what Quine calls 'truth by convention'; a sort of truth which is not established empirically, but rather for reasons of convenience (*to science*). Furthermore, says Quine, there is nothing to prevent us from taking such postulations as bearing empirically significant content – they are interpreted as factually significant, whether their truth or falsity is finalised or not. And it is the fact that such conventions are taken to be empirically significant, or factual, that renders them useful to science. In the first part of the quote Ebbs quotes Quine directly:

"We find ourselves making deliberate choices and setting them forth unaccompanied by any attempt at justification other than in terms of elegance and convenience. These adoptions, called postulates, and their logical consequences (via elementary logic), are true until further notice. [In such cases] postulation can plausibly be looked on as constituting truth by convention."

For Quine, I shall argue, such postulations constitute a scientifically explanatory sort of truth by convention—a sort of truth by convention that avoids the main problem that Quine sees with Carnap’s account of logical truth, namely, that it can play no explanatory role in our scientific theories. (Ebbs, 2011, p. 195)

What exactly is “the main problem” that Quine sees with Carnapian truth by convention that implies that it is of no use to science? The answer to this question also discloses what is seminally different between Quinean and Carnapian truth by convention: For Carnap a convention is qualitatively different to a hypothesis (or “postulation” in Quine’s terminology) in science. It is not, as in Quine’s case, just a matter of degree of empirical confirmation, or a temporal matter pertaining to empirical confirmation (Ebbs, 2011, pp. 226 - 228). For Carnap (as with many of the other logical positivists – see Schlick below) conventions and hypotheses in science correspond to analytic and synthetic in semantic theory. *But* scientific statements or postulates which are not directly empirically justified or supported are taken as trivial and non-factual statements (Stump, 2003).

One of the oldest, most persistent dichotomies in the history of philosophy is that between analytic and factual truth. It has been expressed in many ways [...] In my opinion a sharp analytic-synthetic distinction is of supreme importance for the philosophy of science. (Carnap, 1995, p. 257)

Schlick argues that conventionalists are caught in a dilemma (Schlick [1938] 1953, 187): If conventionalism involves only the choice of symbols or of explicitly defined terms, then conventions are analytic. Conventions, taken as changes in explicit definitions, can only result in trivial notational variation, not genuine change of physical theory. If conventions are synthetic, they are testable empirically and Poincare’s metric conventionalism is empirically false. Schlick argues that natural laws must be treated either as genuine claims, in which case they have truth values, are synthetic, and are to be justified or rejected empirically, or they must be treated as explicitly stipulated definitions, in which case they are analytic, lack truth values, and turn out to be irrelevant to science. (Stump, 2003, p. 1152)

Claims which have been made true by the stipulation of their truth; they are assumed to be true. This might seem very similar then to what Quine says about accepting certain “postulations” as true because they are useful to science. However, for Carnap, since they are not justified empirically they are analytic. For Quine they remain informative and factual. Whether one agrees with Carnap or not, it should come as no surprise that this would be his view. The difference then, very broadly outlined, between Quine and Carnap’s notion of truth by convention, is that Quine thinks of postulates which have been, let us

say, conventionally supported as factual and empirically significant. And Carnap thinks of them as trivial and uninformative – they are definitions (of a certain type).⁶³ By this, however, Carnap does not think they serve no purpose in science. Carnap is very committed to the role of linguistic conventions or analytic truths in scientific enquiry and theory (Carnap, 1995, p. 257). Nevertheless, he takes such conventions to be nothing other than definitions.

So, they cannot serve science in the same way as Quine thinks they do. Ebbs (2011), however, argues that the disagreements between Carnap and Quine do not lie where they are standardly thought to. For instance, he argues that Quine does not, as standardly thought, have the last word on analytic truth and truth by convention, i.e. that there is no such thing. Quine, says Ebbs, is more aware than those who have defended him what exactly Carnap means when he says ‘true by convention’. Quine knows that Carnap does not mean ‘truth’, in the sense of substantial or inflated or factual ‘truth’, could be determined by the mere stipulation and adoption of some linguistic convention or definition. This is for instance a complaint that Boghossian levels against Carnap (Boghossian, 2006).⁶⁴ Where Quine departs from Carnap is that he is not interested in preserving Carnap’s notion of analytic or trivial truth, since his account of science does not accommodate such a notion of truth.

Quine’s criticism of the thesis that logic is true by convention is not directed against a truth-by convention thesis that Carnap actually held, but is part of Quine’s own project of articulating the consequences of his scientific naturalism. Quine discovered that logic is not true by convention in any scientifically explanatory sense. (Ebbs, 2011, p. 195)

But for all the seeming understanding between Quine and Carnap, which Ebbs (2011) posits, he does hold that Carnap and Quine’s accounts of truth by convention *are* different from each other. And so do Carnap and Quine. The point, for now, is that Carnap maintains that “postulations” (using Quine’s term) in science without empirical support are analytic and that a revision of such postulates indicates a change *in language*; a new linguistic convention for the use of specific scientific terms. If Carnap is right and Quine wrong about the informative nature of conventions in science this raises a particular problem for the Quinean empiricist: If there are postulations which are accepted on non-empirical grounds, yet are taken to have factual content (whether true or false factual content) then the Quinean *empiricist*

⁶³ See Part 1, section 3, for an exposition of Carnap’s accounts of definitions.

⁶⁴ This is discussed in detail in Part 3.

ought to be alarmed by the fact there is something epistemically dubious going on; something which is not dissimilar to endorsing the synthetic a priori.

Three things need to be said here. I shall say them quickly, since I have made careful mention already of these points: 1. Theorists sometimes do, inadvertently, commit themselves to positions which they do not intend to endorse. 2. But, more to the point: Science is, of course, “ultimately empirical” (Stump, 2003). This means that, even when particular parts of science are accepted into scientific practice and language, but are “incorporated on non-empirical grounds” (Maddy, 2007; Stump, 2003), they find empirical support from, or are empirically justified by, the networks of theories to which they belong. 3. This is all fine and well, *except* my concerns are semantic; hence, an account of *a sentence’s*, *claim’s* or “*postulation’s*” (à la Quine) particular *meaning* must be given. This asks for an explanation of, or a semantic theory for, how we “understand” those particular sentences and have “knowledge of their meaning” (Dummett, 2006, p. 48). And if we seem to grasp their immediate meaning (e.g. “sense”) in a way which is not due to a direct correspondence to *their own* empirical truth-conditions (because these are still, at most, a potential), then we have grasped their meaning conventionally (Dummett; 2006; Wright, 1987, 1992, 2003). Some will say that under such conditions we are not entitled to attribute empirical significance to the sentence (Hale and Wright, 2003).⁶⁵ Yet, if we’re Quinean naturalists, we have given them empirical significance. This is the problem which Ebbs (2011) expresses about the Quinean naturalist. This is the problem those interested in semantics, such as Carnap (1995), Dummett (2006) and Wright (1987, 1992, 2003), see for the meaning of postulations in science accepted on conventional grounds. And this is exactly the problem which I refer to.

...the problem faced by a Quinean scientific naturalist who finds herself deliberately adopting postulates with no justification other than that the postulates are elegant and convenient, yet who is puzzled about how it could be reasonable for her to accept and endorse the postulates thus chosen without presupposing, as Carnap did, that they are analytic, or immune to revision without a change in subject. (Ebbs, 2011, p. 197)

This Fregean or truth-conditional account of sense makes a grasp of sense unequivocally into the possession of a piece of theoretical knowledge. We have seen that it is a requirement upon any acceptable theory of meaning that it be capable of supporting a viable account of understanding; and the concept of understanding is unquestionably closely allied to that of knowledge. (Dummett, 2006, p. 48)

⁶⁵ This is at the heart of the arguments I make in sections 3 and 4 to come soon.

So, 'truth by convention' comes with a trade-off, if you are Carnap and the rest of the standard conventionalists; the truth thus acquired is, let us say, a lesser truth. Now that we have Carnap and Quine on 'truth by convention' in science poised in the background, let us look at linguistic conventions as *definitions*, but not only pertaining to scientific language.

If linguistic conventions turn out to be *definitions*, then I start with what it is that definitions must do. Generally (because there are many different types of definitions, of course) definitions fix the meanings of terms, one way or another. And 'one way or another' is what determines what type of definition we are faced with. The point is that correct use of a term (the definiendum) might fix the meaning of that term to a certain degree, but unless there is also a clearly associated thought with that term, which can be explicitly articulated, there might still be an ambiguity about what that term means. So, a person interested in literary theory might be able to use, to a great degree of accuracy, the word 'formalism' pertaining to literature. They might be able to do so to such a degree that even speaking to experts in literary theory they would make sense, at least, most of the time. But until they have a grasp of the explicit definition of the term 'formalism' their understanding of the term will always be partial and their use of it a tad compromised. Definitions fix meaning. Some do so explicitly.

A definition for '+' must be able to, by suggesting how we ought to use the term '+' within standard algebra, establish what is meant by '+', in such a way that a speaker will be able to provide a more explicit definition of '+' if asked to. But if a stipulation of '#f' falls short of fixing the meaning of an appropriately general range of contexts even when allied to other explanatory moves, then – even allowing that we may nevertheless have fixed the use of a wide class of sentence types involving 'f' – a recipient will naturally feel that she does not really associate a meaning of 'f', even though competent in the practice in which its use is a part, as far as it goes. (Hale and Wright, 2003, p. 23)

But some do so implicitly. Implicit definitions fix meaning by the definiendum being embedded in a sentence of which all the other terms are understood, except the definiendum. The idea is that when the sentence is used consistently with its wider context and with the already understood terms, doing so will constrain the way in which the unknown term (definiendum) is used. Implicit definitions is how we learn language much of the time. Children, for instance, learn to use words correctly without ever being given the explicit definition for them. But there is also a disagreement about implicit definition. And this disagreement is at the heart of much that follows in Part 2. The *standard* view of implicit definition is

that it is supposed to work without a further requirement of empirical work (Hale and Wright, 2003). This is because when we fix the meaning of a term implicitly we often do so with no further consideration for what the referent is for that term and how its placement in a sentence might affect the way a sentence is true or false. Our example of using ‘formalism’ by simply following conventions of use, rather than knowledge of the explicit definition for it, is a case in point. But, even more so, this characteristic of implicit definition makes it particularly useful (and abundant!) in situations where referents are not easily available. Hale and Wright give the example of implicit definition in science when fixing the meaning of theoretical terms or when fixing the meanings of logical constants.

Our interest here is in a general and a more specific issue about the role and utility of implicit definition. The general issue is whether, and if so under what conditions, the meanings of any significant class of expressions—for instance, logical constants, basic terms of fundamental mathematical theories, or theoretical terms of empirical science—might be constituted by implicit definitions; the more specific issue is whether, if so, such definitions have a role to play in a satisfactory account of the possibility of a priori knowledge of logic and mathematics. (Hale and Wright, 2003, p. 1)

Some, however, disagree that implicit definition might fix meaning without reference to “the facts” (Boghossian, 2006).⁶⁶ The standard account of implicit definition, however, holds that they determine truth by stipulation and not by reference to facts. To stipulate the truth of a sentence is akin to asserting and adopting a principle or norm, but then placing constraints on linguistic practice which are aligned to that principle or norm. So saying or stipulating that a sentence is true when that sentence is about the meaning of a term places constraints on how that term can be used. In the case of implicit definitions the truth is stipulated because it is taken not to be dependent on any extra-linguistic matters of fact. So the term is defined by being, so to speak, *forced*, into a conceptually consistent relationship with other terms in that sentence and within its larger context. But, let us say, the agent of force, is not located outside of the act of stipulation itself.

This is the standard thesis of implicit definition:

Implicit definition, taken as the complement of explicit, embraces a variety of subtypes. What all have in common is the idea that we may fix the meaning of an expression by imposing some form of constraint on the use of longer expressions—typically, whole sentences—containing it. On one traditionally influential

⁶⁶ This is for detailed discussion in Part 3.

conception, this constraint is imposed by the (putatively) *free stipulation* of the truth of a certain sentence, or range of sentences, embedding the definiendum and composed of otherwise previously understood vocabulary. (Hale and Wright, 2003, p. 1)

I recap: What the standard thesis has as a consequence is that implicit definitions work in the absence of any referencing (Hale and Wright, 2003); either referencing to the world or to meaning facts of any kind. Linguistic conventions, when stipulating the use and meaning of words, without denoting anything in the world (*even when, as mostly is the case, such things exist*) are definitions in this very particular sense. In this chapter, when I speak of implicit definitions I assume the aforementioned standard account of them. Let's say that some definitions refer and other don't. Now, let us see how this distinction issues when defining 'entails' in this expression of a law of identity: 'If A is B and B is C, this *entails* that A is C'.

An *explicit definition* for 'entails' might be 'entails means the relationship between the premises and conclusion of an argument when the conclusion *must* follow from the premises'. Dictionary definitions are explicit. Not all dictionary definitions are taken to be referring, but some are. Whether the definition for 'entails' is a referring definition depends, minimally, on it having truth-conditions other than those "freely stipulated" (Hale and Wright, 2003) in the above sense; 'entails' must denote some property, entity or relationship in the world which would be responsible for making the sentence in which it occurs either true or false. This would make such truth-conditions "language independent" (Boghossian, 2006, pp. 335, 336). Wright (1987; 1992) would call them "objective". I shall use both 'objective' and 'language independent' depending on which is best utilised when – I do not take them to be interchangeable terms. What would language independent, objective truth-conditions for 'entails' look like?

We must, at the outset, rule out that these could be the written down or spoken arguments which supposedly 'display' a logically necessary relationship between the premises and conclusion. No one is denying the existence of written or spoken arguments. No one is debating whether or not the display of an argument, including its premises and conclusion, with all the logical symbols being used therein, is, in fact, saying something about a relationship of entailment, in a way which is entrenched in the behaviour of linguistic communities. This is hardly what is at stake. The issue is a philosophically deeper one: Are there objective, language independent states of affairs that *are* relationships of entailment (i.e. logical

necessity)? And if there are, are these somehow *tracked* or *represented* by our logical expressions?⁶⁷ If there are then referencing seems to be a plausible explanation for how meaning of ‘entails’ is fixed. And if there aren’t, what semantic theory does explain how the meaning of ‘entails’ is fixed?

But if there are, the *locating* of such truth conditions is an epistemic problem impacting on an effective semantic theory for explaining the meaning of ‘entails’. Let us say that those endorsing the existence of such objective or language independent truth conditions for ‘entails’ are realists about logic (Boghossian, 2006). And if they further claim that the meaning of logical terms such as ‘entails’ is fixed with reference to these truth conditions then they are called *semantic* realists (Wright, 1992; Hale, 2006).

Realism and antirealism are, sometimes, views about what there is; what entities exist and what the cause of their existence is. The concern at the heart of the dispute between *semantic* realism and antirealism is how to offer an explanation for how meaning is fixed. The concerns therefore are not with the existence of entities but rather with the statements which assumes them and, even more pertinent, requires them for the settling of their truth-values and for fixing their meanings. So, the subject matter for a dispute between *semantic* realists and antirealists is sentences or propositions (or ‘statements’ – depending on who’s talking) and how it is that we gain an understanding of their meaning. Below “such” refers to the metaphysical examples of the dispute.

Dummett’s conception of R/AR disputes stands in sharp contrast with the model suggested by such examples. Issues between realists and their opponents are, he contends, usually best characterized not as disputes about the existence of entities of problematic sort, but in terms of a certain class of statements – those distinctive of the area of thought and talk in question – which he usually labels the disputed class. (Hale, 2006, p. 272)

“Dummett’s conception of R/AR disputes” leads to the formulation of *semantic* realism and *semantic* antirealism (Hale, 2006). “Disputed class” refers to a class of statements where the conditions which settle their truth or fixes their meaning are not trackable. An example in logic is when speakers talk about ‘If X then Y. X. Therefore Y’ (Law of Modus Ponens) *and* the claim is that the meaning of the

⁶⁷ I have given an analogy in the introduction to Part 1, with reference to Marlowe and Goethe, to explain what exactly it is that factualists and non-factualists are disputing when they are concerned about whether there are meaning facts.

sentence is determined by objective truth-conditions. The idea which is germane to the semantic realist antirealist polemic is that when there are objective truth conditions meaning is fixed in a different manner as to when there are not. *Knowing* whether there is or not is the motivation of antirealist semantics (Dummett, 2006). And *not knowing* whether there are objective truth conditions is when the antirealist proposes that another explanation of truth and meaning is required. Hale quotes Dummett directly:

Realism I characterize as the belief that statements of the disputed class possess an objective truth-value, independently of our means of knowing it; they are true or false in virtue of a reality existing independently of us. The anti-realist opposes the view that statements of the disputed class are to be understood only by reference to the sort of thing which we can count as evidence for a statement of that class ... The dispute thus concerns the notion of truth appropriate for statements of the disputed class; and this means that it is the dispute concerning the kind of meaning which these statements have (Dummett, 1963: Realism. *Dummett*. 1978, 145 -165). (Hale, 2006, p. 273)

The meaning realist about a particular domain of sentences or propositions maintains that there are objective truth conditions and that these are what determine the truth and fix the meaning, despite the *inability to locate* such truth conditions. They further maintain that this fact does not preclude that the objective truth-conditions might still have a bearing, in one way or another, on how we fix meaning (Boghossian, 2003).⁶⁸ The semantic antirealist (Wright, 1992) or irrealist (Hale, 2006) will say that not being able to *locate* the truth conditions is a deal-breaker for a realist construal of meaning. They would say that to explain how we *understand* meaning we must be able to *know* the conditions which make a sentence true and therefore fix its meaning. It is here, we shall see shortly, where truth by convention and implicit definition come into play. In the meantime we leave our musings about the existence of truth conditions for 'entails' inconclusive. So far, it seems that agnosticism about whether there are such language independent and objective truth conditions (for the laws of logic) is the most rational position to hold. So we do not *know* if 'If A is B and B is C, this *entails* that A is C' actually refers. What we do know, however, is that we have certainly not *located* language independent and objective truth conditions for 'If A is B and B is C, this *entails* that A is C'. And it is this which demands careful consideration of what epistemology and semantic theory we shall offer for sentences which express the laws of logic. The problem, according to Hale and Wright, is that semantic theories which are not

⁶⁸ More about this shortly, in Part 3, sections 1 and 2.

founded in working epistemologies are confounded by inappropriate ‘realist-like’ commitments (i.e. “platonist imagery” – see below), yielding fruitless explanations about meaning fixing. Hale and Wright seem throughout to be quite comfortable to equate ‘realism’ with ‘platonism’. Implicit definition, they hold, is incompatible with realist accounts of truth and meaning, which depend on reference fixing:

But things might not go well – there may either be no item in the realm of the meaning of “# _” to give a true proposition, or there may be more than one [...] This sense of the problem seem again to be largely inspired by a combination of *platonist imagery* and a misconceived analogy between implicit definition and reference fixing (Hale and Wright, 2003, p. 8) [Emphasis is mine. C.R.]

So what might be said about ‘truth-conditions’ for statements containing ‘entails’, except that we have not located them? Depending on what sort of semantic realist one is, truth-conditions might come in at least one of these two forms (and there are, no doubt, more possibilities): (1) a naturalist might say ‘entailment’, in the end, is extensional, so the entailment between the sentences of an argument refers to a relationship between parts of the natural world or parts of the world which science can explain⁶⁹, or (2) a realist about logical laws (or the laws of logic) might say that there are objective and language independent logical “facts” that serve as the referents of ‘entails’ and that these are non-empirical.⁷⁰

For implicit definitions, as standardly understood, to be able to fix the meaning of a term and explain its use all other terms in the sentence expressing the definition must be understood and used properly already. In the case of ‘If A is B and B is C, this *entails* that A is C’ the logical constants are ‘and’ and ‘entails’ and ‘A’, ‘B’ and ‘C’ are variables. The idea is that if ‘and’ is used correctly and understood properly (this having been already established either by explicit or even further implicit definitions),⁷¹ the introduction of the definiendum, ‘entails’ (which is the relevant definiendum), is constrained by the use and meaning of the other constituent terms. So understanding the definiendum has nothing to do with being able to interpret its meaning *first*, but rather that its meaning is determined by how the use of it is constrained *within* the sentence by having understood the other terms and then using ‘entails’ consistently with them:

⁶⁹ Millikan (1984; 2006) holds such a view. To be discussed in section 3.3, below.

⁷⁰ I discuss Boghossian’s (2006) arguments to this effect in Part 3.

⁷¹ I discuss ‘recursive definition’ (Bohnert, 1963) in Part 1, section 3.3.2.

The proper intelligibility of implicit definition has to consist not in its interpretability but in the type of constraints it imposes on the use of the definiendum (Hale and Wright, 2003, p. 26).

To say that this is how an implicit definition works is to say the same as that it serves as a linguistic convention of a particular type. Implicit definitions are linguistic conventions because they determine the meanings of terms and the sentences of which they are part by describing how terms should be used. Linguistic conventions, when subscribing to an 'irrealist' or 'antirealist' semantic theory assumes, as with implicit definition, that meaning is fixed without referencing or any language independent meaning facts. In such cases implicit definitions stipulate truth and invent meaning. And is only under these conditions that they are knowable (non-inferentially) a priori.⁷²

The general issue is whether, and if so under what conditions, the meanings of any significant class of expressions—for instance, logical constants, basic terms of fundamental mathematical theories, or theoretical terms of empirical science—might be constituted by implicit definitions; the more specific issue is whether, if so, such definitions have a role to play in a satisfactory account of the possibility of a priori knowledge of logic and mathematics. We shall refer to the thesis that at least some important kinds of noninferential a priori knowledge are founded in implicit definition as *the traditional connection*. (Hale and Wright, 2003, p. 1)

Section 3: Three theories about knowing linguistic conventions

Part 2, section 2 has served a more explicative purpose than argumentative purpose. It has given reasons, without yet considering in great detail why others might hold other views about these things, why implicit definitions are linguistic conventions. I did this by describing how implicit definition works, when contrasted to explicit definition. I have also given reasons, with Hale and Wright, why implicit definition fixes meaning without the need for further empirical work. Hale and Wright take this to be the case for implicit definition anywhere, but do narrow their focus at times on the definition of logical constants. I have posited theirs as the standard view of implicit definition. In Part 3, a non-standard view is considered (Boghossian, 2006). Gaps in the present arguments, in favour of the standard view, should be filled there.

⁷² Aside from evaluating a case (Boghossian, 2003) for the inferential a priori knowledge of logical laws in the next section, I shall also be evaluating a case (Boghossian, 2006) for the purported non-arbitrary nature of Implicit Definition in Part 3.

Over this section and the next I do two things: (1) I reject three proposed epistemologies of linguistic conventions (sections 3) and, (2) I defend another (section 4). I have already proposed that all the arguments comprising in Part 2 will assume the *standard* account of implicit definition. Since they *conventionally* determine truth and fix meaning, they are consistent with irrealism about meaning. But irrealism *presupposes* a non-factualism about meaning facts. This renders the standard account of implicit definition, as linguistic conventions (i.e. working conventionally), consistent with Carnap's conventionalism about truth and meaning. I have already shown that the Carnapian sense of linguistic conventions is non-factual (Bohnert, 1963).

The traditional connection is the conceptual connection between implicit definition and a priori knowledge (Hale and Wright, 2003). If so, then precisely what claim is being defended when defending the traditional connection?

Wright distinguishes between first-order and second-order claims (Wright, 2004, p. 158). First-order claims are claims such as 'The law of the excluded middle is valid' and second-order claims are claims such as 'Knowledge that the validity of the law of the excluded middle is valid is *a posteriori*'. Wright holds that claims *about the epistemological basis* of the laws of logic are second-order claims. So an epistemological account of linguistic conventions would have to offer justification for a claim such as 'Linguistic conventions are knowable *a posteriori*' or 'Linguistic conventions are knowable *a priori*'.

The question is how this result might get us what we want: a vindication of the claim that, as I expressed it in my opening paragraph, "[w]e *know*.....that modus ponens, for instance, is a valid rule, and that this knowledge is as rock-solid as any we have". The notable point is that the claim that has to be vindicated is *second-order*: it is not the claim that modus ponens is valid but the claim that *we know* that it is valid that has to be made good. (Wright, 2004, p. 158)

In what follows I marshal support from two distinct papers, one by Wright (Wright, 2004) and one by Hale and Wright (2003). I use some key concepts from these two papers to formulate the criteria against which I have measured the arguments (Boghossian, 2003; Millikan, 2006) which I herein engage. The first paper is Wright's (2004) 'Intuition, Entitlement and the Epistemology of Logical Laws'. From here I get the concept of 'second-order claims' as being epistemological claims. More to follow soon, but I

have already indicated above what second-order claims are. And from Wright and Hale's (2003), 'Implicit Definition and The A Priori', I get 'epistemic arrogance'. Again, more to follow soon. For now, epistemic arrogance is when the truth and meaning of a sentence outruns the justification on offer. The traditional connection is what Hale and Wright (2003) think of as the relationship between *a priori knowledge* and *implicit definition*. Their claim about implicit definitions is that they are prime candidates for a priori knowledge. Their claim expressed explicitly looks like this: 'Knowledge of implicit definitions is a priori (in particular non-inferential a priori).' But this claim is also, conveniently, a second order claim, by Wright's (2004) specifications. I combine some key concepts from these two papers in what follows in all the subsections of section 3.

The claim I shall be defending is: '*Knowledge of linguistic conventions, such as the conventions fixing the meanings of logical constants, is non-inferential a priori*'. Since it is implicit definitions which are chiefly the focus here the claim could also read, '*Knowledge of linguistic conventions, such as the implicit definitions fixing the meanings of logical constants, is non-inferential a priori*'. Either way, that the claim is about 'knowledge' is what makes it a second-order claim. The claim I defend is, by Wright's criteria, a second-order claim, and is by Hale and Wright's criteria, one which eludes epistemic arrogance, unlike some other second-order claims soon to be discussed (sections 3.1, 3.2, 3.3).

The three theories, discussed by me, about how we know linguistic conventions are those respectively proposing intuition (*a priori* apprehension), inferential *a priori* knowledge and *a posteriori* knowledge. Part of a defence of the traditional connection⁷³ is to offer reasons why the standard three epistemic accounts fail. In terms of second-order claims then, the first part of the defence of the traditional connection is to show that not one of the three epistemologies listed above succeed. They do not succeed in explaining how we know implicit definitions or any other linguistic conventions (by a standard 'irrealist' account of linguistic conventions). The second part of defending the traditional connection is to argue that linguistic conventions are knowable non-inferentially a priori.

In short, and as already alluded to, to defend the traditional connection is to persuade that implicit definitions meet certain conditions; these are that they do not refer nor that their meaning is dependent

⁷³ I explain 'the traditional connection' in the introduction to the chapter. But it is quickly stated as the epistemic connection between *implicit definitions* and *non-inferential a priori knowledge*. So any other epistemology for implicit definitions (Hale and Wright) or linguistic conventions in general (I maintain) is to not uphold the traditional connection.

on meaning facts. If they meet these two conditions we say that they are not “arrogant”. Those stipulations which assume, for instance, to establish references are called arrogant. The suggestion is that they must be constrained like this: If the sentence is a stipulation of truth then establishing its truth and meaning must not require any further epistemic work, other than the act of stipulation itself. It is for this reason that the qualification of “arrogance” only applies to “stipulations”.

Let us call *arrogant* any stipulation of sentence, ‘#’ whose truth, such as the antecedent meaning of ‘#_’ and the syntactic type of ‘f’, cannot be justifiably be affirmed without collateral (*a posteriori*) epistemic work (Hale and Wright, 2003, p. 14).

So a thinker who is party to a stipulative acceptance of a satisfactory implicit definition is in a position to recognise both that the sentences involved are true – precisely because stipulated to be so – and what they say. That will be to have non-inferential *a priori* knowledge of the truth of the thoughts expressed. (Hale and Wright, 2003, p. 26)

Mostly (i.e. sections 3.1, 3.2 and 4) my focus will be on the laws of logic and how they define logical constants. Wright refers to the laws of logic as the principles of logic. In his title (Wright, 2004) he uses ‘laws’, but in the content he mostly refers to ‘principles’. I take ‘principles’ and ‘laws’ to be doing exactly the same work within this discussion, so might use either. At times I shall refer to these laws as the axioms of logic – depending on whose view I am discussing and also what it is that I am saying exactly at that point. After all, it is not obvious to everyone that we are able to alight upon the axioms of logic and know that we have done so. It is this uncertainty which gives rise to present debate. The point is to caution that logical constants, the laws of logic (and, perhaps, the axioms of logic) are not used interchangeably below. They are taken to mean different things and I intend to use them accordingly. For now, ‘constants’ are defined since they are terms. They cannot be true or false by themselves. But they can be part of true or false sentences. So the laws of logic, since they are expressed by sentences, are true or false. *But* it is how they are made ‘true’ which is at the heart of this discussion. This is the dispute between the conventionalists and, for instance, realists about logic. And how they are made true has a bearing on what *meaning* the constants might have. Logical ‘axioms’, *if* they are the laws of logic as we *know* them, are subject to the same discussions.

Where I address Millikan’s position about language (section 3.3) I do not investigate the laws of logic per se, since her account is a more generalised account of language and how meaning works. However, I

take the same morals to apply to her account of meaning though. I address Millikan's account because it seems to me a paradigmatic example of an a posteriorist account of meaning. Whether or not what she says *she* would regard as similarly applied to logic is not for me to assume, of course. What I do in section 3.3 is to show that it is not possible to account for much of the meaning our sentences (the ones she is interested in) have, by saying their truth and meaning are *known* a posteriori. I do not, however, level the complaint of epistemic arrogance against Millikan. I argue that her claims about how we know meaning leaves her 'second-order claim' unjustified.

Let's say that the problem faced with landing on the right epistemology for linguistic conventions is to somehow land on the one which best explains our pre-theoretical commitments to knowing those conventions. So, if we have some, for want of a better word, 'sense' that logic is factual,⁷⁴ and that we know the conventions of logic empirically then our attempts to forward an epistemology will perhaps be aimed to match this sense of ours. But whether or not this is the case, generally speaking, the proffering of epistemological theories should proceed in two ways: (1) forwarding a systematic theory explaining our warrant in thinking of our pre-theoretical instincts as constituting knowledge, and therefore showing willingness to advocate a rejection of those instincts if epistemically required (2) if required, isolating or tracking the objective and language-independent matters of fact upon which, in this case, the conventions of logic are based, and therefore showing willing to advocate a skepticism about that ontology if epistemically required.

Most good epistemological theories meet the first requirement. Very few meet the second. However, *some* epistemologies are not required to meet the second; to provide evidence of objective and language-independent matters of fact. This requirement is redundant when, for instance, the semantic theory in question explains how meaning is fixed *in the absence of* such matters fact. But all second-order claims (i.e. epistemological claims) paired with semantic theories which *do* postulate (overtly or covertly) the existence of objective and language-independent matters of fact must, on pain of being unsubstantiated, be supported by evidence of these matters of fact. And to merely advertise the theoretical benefit of there being such things does not do the work.

⁷⁴ 'Factual' here means 'not trivial'. See my general introduction as well as my introduction to Part 1 (i.e. Goethe and Marlowe conversation) for careful explanation of 'factual'.

Section 3.1: Against intuition

I have been speaking in a generalised way about ‘knowing conventions’ or ‘knowledge of conventions’. Sections 3 and 4 are aimed at clarifying what it is we are speaking about when we say ‘knowledge of conventions’. For now: there seems to be reason to think that defences of a priori knowledge gain particular traction when the arguments hold that knowledge of ‘conventions’ is an example of knowing something a priori. Here is Stump on conventions (and conventionalism) in science:

Recent defenses of a priori knowledge can be applied to the idea of conventions in science in order to indicate one important sense in which conventionalism is correct— some elements of physical theory have a unique epistemological status as a functionally a priori part of our physical theory. (Stump, 2003, p. 1149)

Here are Hale and Wright on implicit definitions (a type of linguistic convention):

The idea that the holding of certain sentences “true by convention” might somehow provide a foundation for a priori knowledge generally has been regarded with suspicion ever since Quine’s “Truth by Convention”, while “Two Dogmas of Empiricism” sowed the seed for a widespread scepticism, persisting to this day, not just about analyticity and the a priori but about the very notion of meaning which Carnap and the other early friends of implicit definition thought such definitions might determine. (Hale and Wright, 2003, p. 2)

In this section I give reasons to reject the second order claim: ‘*Knowledge* of linguistic conventions, such as the conventions fixing the meanings of logical constants, is intuitive’. In other words, I give reasons why we do not know the conventions fixing the meaning of logical constants by intuition.

How does intuition contrast with inference? If, for instance, the discussion is about the conventions that establish the meanings of logical constants, and therefore the laws of logic, we cannot claim that those laws have been inferred from other more basic axioms *as well as saying* that they have been intuited. Inference is usually taken to be demonstrable by showing the established and agreed on steps of logical deduction. To know an inference is to know an argument. The point about intuition, or rather, what makes it an attractive epistemological concept, is that it can secure knowledge where inference is not

able to do so; such as intuiting the laws of logic and if these are considered to be axiomatic, then to intuit the axioms of logic.⁷⁵

Intuition might be explicated as “rational or *a priori* apprehension” (Wright, 2004). And if this is a good way of explicating ‘intuition’ then two points follow. The first is that ‘to intuit’ something is the function of a special perceptual faculty; one which makes possible non-sensory apprehension. The second is that it is a faculty which is aimed at the apprehension of some suitable object, something which can be apprehended in this particular manner. After all, not all objects or qualities of objects are known in the same way. We know that an object is a cube by having sensory experience of that object and one knows that one is sad, perhaps, by visceral and reflective or introspective modes. But, whatever the case is about these two examples, knowing the cubical shape of an object and identifying/knowing a personal emotion does not happen in the same way. There are different ways of knowing different sorts of things. Whether *a priori* knowledge, as explicated so far (particularly in section 1), could include intuition is what is at stake in the immediate discussion.

What would make intuition a *rational* or *a priori* faculty? (1) Loosely, and by current conceptions, it is a *priori* because intuitive knowledge is understood as knowledge we have independently of using any of the usual five senses. So, it is not visual, audial, olfactory, prandial or tactile. It is, therefore, not a *posteriori*. Pertaining to the present discussion about linguistic conventions (or rather their content), to forward an epistemology of conventions that says we know these intuitively is to say, minimally, that we do not have sensory knowledge of them. (2) Nor is to intuit a convention the same as to *bring it into* existence, construct or stipulate it. To intuit something has a strong implication of there being an object *to be discovered*, or “tracked” (Hale, 2006). (3) Lastly, to intuit a linguistic convention is not to *infer* it, according to specified rules of inference, from other matters of fact or more basic propositions.

If, for some reason, the explication of ‘intuit’ makes it the same as ‘infer’, then the epistemological concerns about ‘intuition’ are discussed in the next section where inferential *a priori* knowledge is discussed. The upshot of this will be that intuition of linguistic conventions is then rejected for the same

⁷⁵ I shall assume that the laws (or principles) of logic, e.g. the law of modus ponens, are axiomatic, since there seems not to be anything we actually do know that is ‘more’ axiomatic than laws of that type. Of course, part of the debate about the epistemology of logic is about the foundations of logic (Wright, 2004), since it is these everyone is so concerned to justify.

reasons as inferential a priori knowledge of linguistic conventions is rejected – since they are the same thing. What follows, therefore, assumes that there is a distinction.

Let's bear in mind that our present subject matter is knowledge of the conventions which determine the truth and fix the meanings of logical terms. It could have been many other things. We shall take these conventions to be, particularly, the implicit definitions of logical terms. One of the main advantages of forwarding intuition as a faculty of knowledge for the laws of logic is that it puts an end to the infinite regress which some other accounts, such as knowledge by inference, occasion (Wright, 2004). For instance, to say that the laws of logic are inferred is to immediately elicit further questions such as "But *from what* are they inferred?" Let us assume I know that ' $5 + 2 = 7$ ' is a true claim. And, therefore, '+' is a valid mathematical operation, expressed as a mathematical convention, meaning to add the two numbers to each other. The proponent of inferential a priori knowledge will say that I know the meaning of '+' because I have inferred it from further more basic axioms of mathematics. It is then asked of them what these basic axioms are and how is it proposed that we have knowledge of them so as to be able make the inference from them.⁷⁶ Knowledge from inference about '+' means knowledge of the validity of '+' would be deductive, inductive or even abductive; yielded then by some other more foundational premises or propositions, which then first has to be given an epistemic account of. This leads to an infinite regress for the proponent of inferential knowledge of conventions (Wright, 2004).

On the other hand, to intuit something, such as mathematical operations or the validity of logic, is to directly apprehend the conditions which make true mathematical and logical sentences.

The idea that basic logical and indeed basic mathematical knowledge is somehow intuitive in this way is a venerable tradition which runs from Euclid to Frege and lingers in the thoughts of many modern philosophers, unconvinced by the attacks on the a priori launched by Quine and others. Again: if inference can deliver (a priori) knowledge at all, then must not its ability to do so ultimately rest – on pain of vicious regress – on basic principles which themselves admit of no proof but are simply directly evident to rational scrutiny? (Wright, 2004, p. 156)

One point of clarification about the above quote, which is a slight digression, but is also needed: I have described Frege's epistemology of analytic truths (logical and mathematical truths) as advocating a priori

⁷⁶ In the following section I discuss Boghossian's (Boghossian, 2003) defence of inference, before I argue against it.

knowledge thereof. Furthermore, I have said that for Frege ‘a priori’ knowledge or justification amounts to logical procedures. Logical procedures, I have already suggested, are not the same thing as intuition, or rational apprehension. This might make it seem as if my account of Frege’s epistemology is inconsistent with what Wright’s is, since he says Frege endorses ‘intuition’. It is not.

In my précis of Frege, in Part 1, section 2, aside from explaining Frege’s endorsement of logical procedures as a priori knowledge, I also explain Frege’s belief in the objectivity of logic. He also holds that meaning in general is objective. Frege does indeed think that there are objective⁷⁷ and axiomatic facts about logic and meanings of logical terms. This, I have suggested, makes his account of meaning factualist. But Frege also must think there is some way in which we know such facts. These, however, cannot be inferred, since they are axiomatic (i.e. that which inference is based *on*). This means that there is either an inconsistency in Frege’s epistemology or he holds that there are two types of knowledge of, perhaps, two parts of logic: (1) intuitive knowledge of the axioms (the logical principles) and (2) knowledge which we get from applying those principles. This means that those laws (or principles) are based in facts about logic. Boghossian (2006) discusses Frege’s ‘factualism’ about logic. And he is right about Frege’s factualism. As is Wright in the above quote. I discuss Boghossian’s account of Frege, and his own endorsement and ‘improvement’ of Frege’s account of analytic truth, in detail, in Part 3. In addition, I there discuss Wright’s rejection of factualism about meaning (Part 3, section 5).

What we have so far then is that to endorse intuition is to presuppose that there is something to intuit. In the case of logic it seems to be the facts which constitute the laws of logic. I have already suggested that we leave the question about such facts suspended; there seems to be no epistemically decent way in which philosophers can resolve the question. Let’s see why intuitionism fails anyway.

⁷⁷ I use ‘objective’ throughout the rest of Part 2, quite extensively. Since it is chiefly truth and meaning I am concerned with in this thesis, I use ‘objective’ in the Fregean sense (Coffa, 1991, p. 307). With ‘objective’ I mean something like ‘truth and meaning are objective when grasping it is not a matter of grasping a speaker/s constructed language system; one which determines its own truth and fixes its own meaning by its own stipulated rules’ (I have adapted this definition to include both Fregean and Carnapian ideas about what objectivity is and what it is not – this has been explained in great detail over the entire Part 1, sections 2 and 3).

Intuitionism fails for three reasons: (1) claims to ‘obviousness’ are superstitious and self-congratulatory, (2) there is still no decent account of how the faculty works and (3) there are no criteria by which to determine which linguistic conventions are genuinely primitive or foundational. And to do so is required for the justification of the second-order claim, ‘Knowledge of linguistic conventions is intuitive’.

Accounts of intuition often rest on claims such as the ‘obvious’ truth of propositions, or the ‘obvious’ validity of logic, or the ‘obviousness’ of there being objective facts about meaning. It is for this reason that, for instance, other accounts of meaning, such as conventionalist accounts of meaning, are described as counter-intuitive. For instance, realists in science ask whether it is not *obvious* that the success of science is not, at least in part, due to the fact that theoretical terms are treated as referring to mind-independent entities. In other words, the suggestion goes, we are entitled to have some ontological commitments to the existence of such entities based on the fact that science seems to ‘work’ on the whole. But this is not ‘obvious’ to everyone. The opposing camp (e.g. some brand of the scientific irrealist camp) might doubt whether the success of science is, in fact, due to the postulations of obviously objective truths and not rather due to us having correctly worked in accordance with our *stipulated* conventions for scientific practice.

The crux of the matter, though, is whether the appeal they have, appreciated in this way, is the appeal of obvious truths – better: obviously valid principles – as opposed to: obviously correct codifications of actual intentional practice. The distinction is crucial. (Wright, 2004, p. 168)

No appeal to obviousness will settle the dispute which is at the heart of the debate. For the anti-intuitionist, the problem with obviousness is related to issues of disagreement. If it were ‘obvious’ in the sense that it would have to be for intuition to be regarded as a decent epistemic tool, then there are two theoretical requirements of intuition: (1) if intuition is supposed to alight upon the objective and factual laws of logic there has to be *an explanation* for why there can be distinct intuitions about the same parts of reality and (2) then, this explanation has to be accompanied by, let us say, an epistemic device or criteria, which can aid a delineation between correct and incorrect intuitions. But these criteria cannot make an appeal to ‘common sense’ since people’s common sense seems to lead to different conclusions. So no appeals to ‘obviousness’ will help here. For instance, that it seems like ‘common sense’ that there are facts about logic is by no means ‘obvious’ to everyone. There are many who doubt that there are facts about logic. These are also precisely the views here endorsed (section 4). Unless

these requirements are fulfilled it is hard to see how there can be a claim to *knowledge* from intuition because intuition then, at worst, only amounts to personal opinion or preference. And if something is intuited correctly, then, without an account of *how* it does so, in a way which constitutes knowledge (or “cognitive success”), the intuition would have been merely accidentally correct. Accidentally correct intuitions do not constitute knowledge.

The phenomenology of obviousness that attends basic logic is beyond dispute. But to acknowledge that is no commitment to the idea that such obviousness is the marker of a very fundamental, very solid form of cognitive success (Wright, 2004, p. 157).

I have discussed, in section 1, BonJour’s (Russell, 2014) defence of ‘rational apprehension’ (which is another term frequently used for ‘intuition’). I defended BonJour there. But that defence might, understandably, be seen as inconsistent with the point I make immediately above and my arguments in this section against intuition. The point I make immediately above, with Wright, is sometimes articulated as ‘The argument from lack of independent calibration’ (Pust, 2014). This argument, in short, holds that for the contents of our intuitions to be taken as *knowledge*, intuition should first, and independently to intuition itself, be shown to be credible as an epistemic device (Pust, 2014). The intuitionist, however, responds by saying (Pust, 2014) that this bar is too high and perhaps ‘unfair’. The reasons are similar to the reasons why I defend BonJour (but not intuition, in general) in section 1: That to offer a justification for an epistemic ‘device’, e.g. intuition or observation or some such, is to offer a metajustification. Yet, there is no epistemology, which depends on such devices, which has received an effective justification of this type. This position is expressed as an argument *against* ‘the lack of independent justification’ (Pust, 2014). Further challenges to intuition are arguments from “unreliability” and “explanation” (Pust, 2014). And, as expected, there are then also ‘intuitionist’ arguments posed to meet every such challenge offered against intuition. Such counter arguments are often referred to as arguments about “constraints on skeptical challenges” (Pust, 2014).

Whether intuition can serve a genuine and respectable purpose in philosophy has been the topic of some considerable debate (Pust, 2014). It is, however, not required that I investigate this terrain. The reason is simply that I do not think one epistemology, if epistemologies are taken to be philosophical positions, gains any more traction than another, without further conditions being made explicit. These conditions have to do with the content of the knowledge – *what* is known. Epistemologies should be

understood as being conditional on theoretical aims. This means that, for instance, if an epistemology about knowledge of the laws of logic suggests that we know them intuitively, the further claim about what such laws are (e.g. factual statements of stipulations) must be congruent with the explication of intuition itself. So, intuition might plausibly be a good way of knowing our own pre-theoretic beliefs about the laws of logic (given what explication we adopt for intuition), but it is perhaps harder to explain how it might be a good way for knowing anything objective and real. I shan't engage the challenges to and defences of, intuition (Pust, 2014) here. The aim is to show that an epistemology which appeals to intuition does not explain knowledge of the laws of logic, given the particular explication we have of 'intuition' and 'the laws of logic' (e.g. as objective).

Let us go forward assuming there has been no decent description given of how intuition, as a rational faculty, works if it is to apprehend things which are objective. In other words, the question of how speakers rationally apprehend objective facts without using the usual five senses has not been answered. We seem to understand, even though we evidently worry about whether we are right to be confident about it, how logical inference works. But understanding logical inference is not to *know* that there are facts about logic. It is not to have intuited the basic axioms of logic nor the facts which fix the meanings of logical terms. Our understanding of logic might just as easily be imported in some other way (such as that we understand our own stipulations or inventions). This much is clear; an account of the intuition of a *factual* basis for logic or any other linguistic convention needs to signal actual fact-tracking. Furthermore, we understand, or are at least in a position to forward decent scientific hypotheses (i.e. *testable* hypotheses), about how *sensory* apprehension works. Yet, in terms of intuition, all that is on offer is that postulating such a faculty seems an effective (and perhaps only) way to preserve some of our pre-theoretical instincts (Wright, 2004, p. 154). Such as that there 'must' be facts about meaning and/or logic, otherwise we would not be as certain as we are about these things.

Boghossian (2003) offers reasons to reject, what seems appropriately akin to, an intuitional account of logic. Intuition he calls "rational insight". His reasons to reject "rational insight" seem correct to me and are consistent with the two aforementioned ways (in section 3) in which epistemological theories must proceed.

First, it requires us to take seriously a notion of rational insight, a notion that no-one has been able to render respectable. Second, and even if we waived this first worry, the aimed-for transparency will still be unattainable, since the only way to attain it will require that the thinker use such knowledge as

rational insight is able to afford him as the basis for an inference to the justifiedness of his conclusion. So no matter how concessive we are about rational insight and about the knowledge of logical implication that it is supposed to engender, there seems to be no way to satisfy the transparency insisted upon... (Boghossian, 2003, p. 236)

What “transparency” is Boghossian speaking of? It is the transparency of not having to infer from unknown axioms. If the axioms of logic are transparent then we can say they are known or knowable. In the case Boghossian is arguing against they are purportedly knowable by “rational insight”.

Boghossian (2003) holds that the advantage of offering an account of the laws of logic as known by rational insight is that it makes possible knowledge of the un-inferred axiomatic parts of logic. At least, it makes this theoretically possible. We have already seen that this is the attraction of endorsing intuition and other forms of ‘apprehension’. Boghossian denies, however, that the professor of rational insight has achieved his aims (Boghossian, 2003, pp. 235 - 237). His reasons are that there is no account of rational insight that explains how it works and, even if an explanation is not required, there still must be direct evidence of what is supposedly transparent in this way to satisfy the epistemological claim. Neither of these has been achieved.

The proposed advantage of having landed upon the objective foundations of logic, by proposing that we know these intuitively, is only one in name; it remains a platitude until the second-order claim, ‘*Knowledge* of linguistic conventions, such as the conventions fixing the meanings of logical constants, is intuitive’ has been justified.

Section 3.2: Against inferential a priori knowledge

Here is Boghossian’s solution to the problem of how we know linguistic conventions, such as the conventions which fix the meaning of logical constants and determine the truth of the laws of logic. I argue that Boghossian’s epistemology for logic renders logical laws epistemically arrogant and his second-order claim, i.e. that we know logic inferentially a priori, unjustified.

He (Boghossian, 2003) notes that the laws of logic are not explicitly known in all cases where inference is effectively used. So, there are many cases where effective reasoning takes place, i.e. the laws of logic

are observed, yet there is no knowledge of the explicitly stated laws of logic. In this section I look at Boghossian's (2003) defence of the view that knowledge of the laws of logic is gained from a priori inference, even when we have no explicit knowledge of the laws or rules which legitimate this inference. This is why Boghossian calls it "blind reasoning". He argues that we are entitled to believe that the laws of logic are 'true' even when we do not have, so to speak, direct knowledge of these laws.⁷⁸ Summarily, his reasons are that we, evidently, *do* have a grasp of logical concepts, or we "possess" logical concepts, and that our inferential practice seems to be consistent with these concepts. We are, therefore, entitled to assume knowledge of the laws of logic, despite not knowing what these explicitly might be.

In this paper, I have attempted to sketch the outlines of an account of this phenomenon, one that avoids the pitfalls both of an overly austere Reliabilism and an overly intellectualized Internalism. The account seeks to revive and exploit two traditionally influential thoughts: first, that following certain inferential rules is constitutive of our grasp of the primitive logical constants; and, second, that if certain inferential rules are constitutive of our grasp of certain concepts, then we are *eo ipso* entitled to them, even in the absence of any reflectively appreciable support. (Boghossian, 2003, p. 248)⁷⁹

To understand the subtlety of the general problem here, as well as Boghossian's particular solution to it, I should make the following qualification. To begin with, Boghossian appeals to a well-established maxim of deduction; that valid deduction guarantees the truth of the conclusion if deduced from true premises, without a need to independently establish the truth of the conclusion (Boghossian, 2003, pp. 225, 226). But to accept this maxim is to accept that we must take ourselves to have some entitlement to believing in the 'truth' of the laws of logic, without having explicit knowledge of them. Here, however, is a very important distinction: To claim that we are entitled to assume that we have gained knowledge (that is, about the truth of the conclusion) from drawing a valid inference has two 'parts': (1) That knowledge of the truth of the premises, if correctly inferred from, warrants us in believing that we now have knowledge of the truth of the conclusion. (2) But knowledge of the truth of the conclusion cannot be

⁷⁸ 'True' here is used in a very specific sense of the word. Part 3 includes an in depth discussion of what Boghossian's notion of 'truth' is, when pertaining to logic. There it is contrasted with the positivists' notion of something reduced, such as trivial truth (Bohnert, 1963) or minimal truth (Wright, 1992). I shall therefore not do any explaining of 'truth' here. For now, it should be read as 'truth' as in 'factual truth'; as the sort of truth for which the truth conditions *are more substantial* than what is determined by the stipulation of truth (Boghossian 2006; 2003).

⁷⁹ Boghossian's (2003) paper covers a few examples of epistemological theories about the laws of logic. It is not required for my purposes to discuss these, since he rejects them and most of what he says I agree with. The part that is significant to my aims here is the positive part of his paper; his defence of blind reasoning. It is here where I aim my arguments.

guaranteed by *only* having knowledge of the truth of the premises. This is because knowledge of the truth of the conclusion only *minimally* depends on knowledge of the premises; it is a necessary condition, but not sufficient. Knowledge of the truth of the conclusion *further depends on* the 'truth' of the inferential rules (or laws of logic/logical laws). It is the second part of how knowledge is gained *from* inference, and therefore *about* inferential rules, that Boghossian concerns himself with in his paper, *Blind Reasoning* (2003).

Clearly, at the very least, the following two conditions must be satisfied. First, the thinker must be justified in believing the premises. Second, his justification for believing the premises must not depend on his being *antecedently* justified in believing the conclusion. Equally clearly, though, these conditions do not suffice for the inference to transfer justification. In addition, the premises must bear an appropriate relation to the conclusion they ground. And my question is: What is that relation?

In this paper, I am going to restrict myself to asking this question about *deductive* inference, leaving it an open question to what extent what is said here generalizes to other cases of justification- or warrant-transfer. In a deductive inference, the thinker takes his premises to justify his conclusion in part because he takes them to necessitate it. (Boghossian, 2003, p. 226)

But, says Boghossian, the fact that mostly reasoning happens perfectly well without knowledge of the laws of logic (most people are not philosophers, yet many reason) means that explicit knowledge of these conditions is not required.

In searching for a solution, we must respect the following facts. On the one hand, the failure of [various considered epistemologies] teaches us that it must be possible for certain modes of reasoning to be entitling without our knowing, or being able to know, anything about them. I'll put this by saying that it must be possible for certain inferences to be *blind* but justifying. (Boghossian, 2003, p. 237)

Boghossian has given us 'concept possession' and 'use' or 'inferential practice' as reasons for our entitlement to logic. These are perfectly respectable reasons, to my mind, and are furthermore in line with conventionalist types of theories about logic. But there is a further obstacle to overcome, before such postulations can be accepted as decent epistemic reasons for our entitlement to the inferential rules of deduction.

Here then is the challenge I see for positions such as these (i.e. that effective *use* or *concept possession* is entitling or warrant transferring): To justify the second order claim that ‘Knowledge of linguistic conventions, such as the conventions determining the truth of logical laws and fixing the meaning of logical constants, is inferential a priori’ Boghossian must explain why the gap between effectively “using” (Boghossian, 2003, p. 248) the rules of inference and assuming that those rules are ‘true’ (in *his* sense of ‘true’ – not trivially, in other words – to be explained shortly) is closed by (1) having logical concepts and, (2) being able to reason effectively.

I shall argue that what Boghossian suggests we can ‘buy’ with these conditions is more than what we are entitled to. To my mind, Boghossian’s (2003; 2006) two cases that feature in my thesis are positioned somewhere between these two theoretical positions; realism about the truth of logic and conventionalism about how we justify logic. This is what makes them both interesting and entirely relevant to the aims of this project. I shall explain all of this shortly. The arguments Boghossian presents about truth and knowledge of the laws of logic (here in Part 2, section 3.2. and again in Part 3) suggest that their truth is non-trivial *because* knowledge of, for instance, the laws of logic or the meanings of logical constants is knowledge of facts. But because his arguments draw from more conventionalist type strategies (i.e. “use” and “concept-possession”) *it is easy to miss* where he then positions both truth and knowledge - objectively.

Explanation is needed. I offer an ‘artificial’ distinction against which I shall pitch my description of, and arguments against, Boghossian. It is artificial, because its exact formulation is one posed by me – but those familiar with the present philosophical terrain will quickly see the familiarity. The distinction, in the end, is very standard. I have given the two approaches humdrum names, (A) and (B). This is because there are already so many names given to these approaches, each indicating intricate variations. Some names even import unnecessary, but seemingly intractable, problems to either approach. I wish to try and avoid all of this and make the distinction my own device, able to focus attention where I need it to be focused.

(A): Objectivity cannot be bought with ‘meaning-is-use’, ‘conventions’, ‘a priori justification’, ‘concept-possession’ or ‘rule-following’

(B): Objectivity can be bought with ‘meaning-is-use’, ‘conventions’, ‘a priori justification’, ‘concept-possession’ or ‘rule-following’

The salient point is that I take them to be incompatible. And they are incompatible because (A), for one, is conservative and resistant to coalitions between truth and justification, which do not mirror the coupling suggested by this thesis. It is (A) I defend and (B) I accuse positions such as Boghossian's of. Horwich (Hale and Wright, 2003) expounds a (B) like approach. The above distinction has the following crucial implication: when 'meaning-is-use', 'conventions', 'a priori justification', 'concept-possession' or 'rule-following' are offered as the 'currency' for obtaining 'grounds for belief', 'conditions of entitlement' or 'reasons for warrant', then what is bought with this currency is always something which is subject dependent, or not objective in the Fregean sense. I argue that the currency which Boghossian has at his disposal (and he is right about what he, and everyone else, for that matter, has at their disposal) is insufficient for what he argues must be bought with it - objectivity. In other words, I argue that Boghossian's position is (B), yet I think only (A) type positions are correct (I specifically argue for (A) in section 4).

Boghossian considers "deflationary answers" to what transfers the warrant we have to believe in the laws of logic (Boghossian, 2003, p. 239). The deflationary answers, considered by him, hold that our assumptions that we have warrant are "innocent" until they are shown to be "blameworthy" (Boghossian, 2003, pp. 237, 238). This means that, unless we are obstinately ignoring reasons for rejecting entitlement or warrant, we are entitled to warrant until such reasons manifest. Sometimes "coherence" is an added requirement for warrant (Boghossian, 2003, p. 239). That is, we are entitled to warrant in the absence of refuting reasons and whilst what we take ourselves as warranted in believing is coherent with other beliefs we hold. Deflationary explanations, he says, fail because they do not take cognisance of the important feature of "necessity" which patterns of inference seem to possess. This necessity is one which is a function of the fact that when we reason, we do so in accordance with concepts which we already possess. He calls this "analytic explanations of the a priori" (Boghossian, 2003, p. 240). Deflationary accounts of warrant do not accommodate the necessity of logical laws. He argues that, if correct inference (rule-following) provides us with warrant to believe in the patterns of inference then those patterns of inference, determined by the laws of logic, must have a particular sort of property which provides us with that warrant. It cannot just be coherence and absence of refuting evidence. For Boghossian, necessity is not a property which a pattern of inference *may (or may not)* have.

What makes this brand of deflationary answer unsatisfactory is that it is hard to believe that the property of being warrant-transferring is simply a primitive property that an inference pattern either has or fails to have. Surely, if an inference pattern is warrant-transferring there must be some property by virtue of which it is warrant-transferring. And our question is: What, in the most basic cases, in which reflectively available support is not possible, could that property be? (Boghossian, 2003, p. 239)

For Boghossian, such patterns cannot be a matter of contingency – which is what the deflationary explanations entail. What Boghossian is objecting to when he rejects “may or may not have” is the idea that logic is a matter of laws which might have been otherwise, had it been somehow decided that they would be, or that they are right until proven otherwise. He posits that, if inference is warrant transferring, that which provides such warrant must accommodate what is necessary about logic. He says that an account of the properties which legitimate warrant transference cannot consist merely of an account of the conditions under which inference happens (i.e. absence of refuting evidence and coherence) but such an account should give “the facts” which permit the warrant and support the necessity which is indubitably the case.

I should emphasize that I am asking *by virtue of what facts* a deductive inference transfers warrant, and not just under what conditions it does so. (Boghossian, 2003, p. 226)

As already alluded to, some of ‘the facts’ of which Boghossian speaks is that we possess certain logical concepts and that this necessitates the laws of logic (this is what makes the laws of logic analytic).⁸⁰ What he is suggesting is that it is the *meaning* which these concepts have that entitle us to transfer warrant from the patterns of inference which we use, often without knowing them explicitly. And then it is because the meanings of the concepts necessitate the laws of logic that we are “blameless” in assuming the entitlement we indeed do have to logic, despite not knowing either the laws themselves or not having “grounds” (Boghossian, 2003, p. 237) for our belief in them. ‘MPP’ that Boghossian refers to below is the specific example of modus ponens reasoning he sets up in the very beginning of ‘Blind Reasoning’ (2003). But it is simply a standard example of modus ponens reasoning.

⁸⁰ Boghossian has a very different notion of ‘analytic’ to Carnap. His is rather more in line with Frege’s; which rests on meaning being objective. I give a detailed account of this in Part 3.

So, if the meaning-entitlement connection that I've gestured at is correct, it looks as though we are in a position to mount an explanation of the blameless blindness of MPP that we were after. (Boghossian, 2003, p. 241)

The crucial point to make about Boghossian's position is that what he hopes to buy with 'concept-possession' (which incorporates the meaning-entitlement connection) and 'inferential practice' or 'use' is entitlement to logic, but logic which is *objectively* true. He, however, acknowledges that he does not argue for the objectivity of logic, but directs his reader to where he has argued extensively for it in 'How are objective epistemic reasons possible?' (Boghossian, 2003, pp. 230, 234, 235).

For reasons that I don't have the space to rehearse here, it seems to me very implausible that one can be said to know the general proposition that any argument of the form MPP is valid on the basis of nothing, as though all one would have to do to be justified in believing such an ambitious proposition is simply to believe it. (Boghossian, 2003, p. 230)

What I do now is to use the device set up above (i.e. (A) and (B) approaches) and show how Boghossian's account of how we know the laws of logic fails to be (A) – which is not something he would want anyway – but is represented by (B), which is to my mind (and some other minds too) wrong. In order to show this I shall, by way of closure, refer back to 'epistemic arrogance' and 'second-order claims' since I take (B) approaches to logic to render the laws of logic epistemically arrogant and the second-order claims about those laws unjustified.

About (A) type approaches: This approach is often associated with deflationary accounts of *truth*. But these are not what Boghossian describes when he speaks about deflationary answers, at all. However, to digress now into the deep waters of talk about deflationary truth (Wright, 1992) will interrupt, too much, what I am trying to do here. And it isn't necessary. Let me rather remain with our established concepts and try to finish what I have started, using those. Often (A) type approaches will speak of 'entitlement' or 'warrant' instead of 'knowledge', in order to signify that it is something less than full-blown knowledge, as we usually think of knowledge when what we take ourselves to know is objective. 'Entitlement-type' theories about logic or anything else, such as what is endorsed by Wright (2004, 1987, 1992); Hale (2006); Dummett (2006) are the function of (A) type approaches *because* they acknowledge the inadequate grounds we have for "manifesting" (Dummett, 2006) knowledge of *objective* matters of fact. It is for such reasons that meaning is 'use' and truth is 'stipulated'. This is a

price (A)-type theorists are willing to pay – even if the trade-off is less ‘truth’.⁸¹ Roughly, terms adopted by positions such as these are ‘minimal truth’ (Wright, 1992, Hale, 2006), ‘trivial/logical truth’ (Carnap, 1950) or ‘deflationary truth’ (Wright, 1992, 1987; Hale, 2006). The objective positing a different type of truth is to bring it into line with the justification or ‘currency’ on offer.

The point against Boghossian is that despite sharing a currency with (A) approaches he does not merely want to secure a sort of minimal truth for logic. He wants to secure an entitlement or warrant in using logic which somehow shows that we can assume more from logic than that it is a set of constructed linguistic conventions which we are simply deeply invested in (see my discussion about ‘There is no largest prime number’ in section 1, above). Boghossian is a realist about logic (Boghossian, 2006).⁸² He, therefore, and quite correctly, admits that the gap he must close is to show that inference has some property which makes it “warrant-transferring” or able to yield knowledge, *proper*.

Where does the same currency get an (A) type theorist and why? Wright says that inference must be in accordance with “concept constituting rules” (Wright, 2004, p. 158). To be in accordance with concept constituting rules is for the speaker to be in possession of at least one concept in the premises or conclusion. In other words, the speaker employs logic already understanding one of the logical terms used. Let us say that such a concept might be ‘entails’. When there is possession of this concept *and* the speaker reasons correctly using one or another rule of inference, the speaker may assume knowledge of the validity of the rule, even though the general and explicitly stated rule (law) is not known. For the likes of Wright, however, this fact does not get us all the way to assuming that, for instance, Modus Ponens is necessitated by anything else than those specific concepts (again, see my discussion of ‘There is no greatest prime number’ in section 1, above). Wright (2004) holds that had the concepts been different the laws too might have been different. Hale and Wright (2003) argue for a similar point when they explain the role of implicit definitions in knowledge of logic. What we know from concept-possession, according to Wright, is not “facts” about validity that (B) approaches assume.

It is argued that the error in this idea consists in its overlooking the possibility that there is, properly speaking, no knowledge of the validity of principles of basic logic. When certain important distinctions are observed, for instance that between recognising that Modus Ponens is sound and recognising that it is

⁸¹ To be discussed in section 4 and Part 3 again.

⁸² To be discussed in Part 3.

proof against the competent discovery of basic counterexamples, the case for thinking that there is indeed no space for genuine recognition of the validity of Modus Ponens becomes increasingly impressive. (Wright, 2004, p. 155)

To the contrary, the virtue of the “concept constituting” condition is that, as Boghossian sees it, it forces an acknowledgement that we do, in fact, “possess” basic logical concepts – whether we can explain this possession or not. If we did not possess the basic concepts, we would not be able to infer whilst not knowing inferential rules explicitly (Wright, 2004, p 158; Boghossian, 2003, p. 239).

A deductive pattern of inference P may be blamelessly employed, without any reflective appreciation of its epistemic status, just in case inferring according to P is a precondition for having one of the concepts ingredient in it. (Boghossian, 2003, p. 239)

The thought is this. Suppose it’s true that my taking A to be a warrant for believing B is constitutive of my being able to have B-thoughts (or A-thoughts, or both, it doesn’t matter) in the first place. Then doesn’t it follow that I could not have been epistemically blameworthy in taking A to be a reason for believing B, even in the absence of any reason for taking A to be a reason for believing B? For how could I have had *antecedent* information to the effect that A is a good reason for believing B, if I could not so much have had a B-thought without taking A to be a reason for believing B in the first place? If inferring from A to B is required, if I am to have the ingredient propositions, then it looks as though so inferring cannot be held against me, even if the inference is blind. (Boghossian, 2003, p. 240)

Does Boghossian’s account of blind inferential a priori knowledge justify this second-order claim: ‘Knowledge of linguistic conventions, such as the linguistic conventions fixing the meaning of logical constants, is inferential a priori’? It does not. It does not because, despite Boghossian’s appeal to ‘concept possession’ and ‘use’, what he purportedly secures by these means outruns the work that they can actually do; that is, determine the sort of truth Boghossian thinks the laws of logic have. Nor does “cannot coherently doubt”⁸³ (Boghossian, 2006) do the work where “concept possession” and “use” do not. To not be able to coherently doubt the truth of the laws of logic does not establish that such laws are factual or objective. I hope to have already argued somewhat to this effectively. Boghossian, surprisingly, marshals support from Wittgenstein. He takes himself to be in line with a Wittgensteinian notion of ‘use’ or linguistic ‘practice’ when proffering blind inference as a reason for entitlement.

⁸³ To be discussed in Part 3.

The allusion here is to Wittgenstein's remark at *Philosophical Investigations* 219:
When I obey a rule, I do not choose. I obey the rule *blindly*. (219)

One of Wittgenstein's fundamental insights, it seems to me, was to realize that we must be capable of a form of blameless reasoning that did not depend on any other cognitive state of the thinker's and, in particular, not on anything analogous to sight. As he put the matter in *On Certainty*:

Giving grounds, however, justifying the evidence, comes to an end— but the end is not certain propositions' striking us immediately as true, i.e., it is not a kind of *seeing* on our part; it is our *acting*, which lies at the bottom of the language game. (Boghossian, 2003, p. 237)

But it is by understanding what it is that Wittgenstein thinks can be achieved, epistemically (i.e. from the grounds for knowledge that are *actually* on offer), with appeal to 'use' and 'concept possession' that we understand that Boghossian's demands on these epistemic-semantic concepts are too great. Regardless of whether they are too great or not, they are certainly greater than the purported "grounds" Wittgenstein reckons they can actually be grounds for. It seems to me that Wittgensteinian sentiments about 'grounds for belief' and 'groundlessness of belief' provide support for the (A) type approach. It is not unusual for (B) type approaches to be seemingly affiliated with Wittgensteinian positions about meaning and other matters. Bear in mind that Boghossian is a realist about logic (2003; 2006).⁸⁴ But Wittgenstein was too (Coffa, 1991) – at least he did maintain that logic was objectively true.⁸⁵ However, unlike Boghossian (and herein lies the nub), Wittgenstein does not think there are grounds for our belief in the objective validity of logical laws, if that is where our commitments lie (Wright, 2004). Boghossian takes himself to have provided reasons for why we are entitled to take ourselves as warranted in using logic – but the warrant is for more than effective use, it is for believing in the objective validity of logic. He does not argue, however, like Wright (and Wittgenstein) that our use suggest *nothing more* than conventional truth and meaning (as discussed in Part 1, section 3.3.3 and also in Part2, section 2). Boghossian suggests that our entitlement is different to the entitlement Wright and Wittgenstein think we get from the same 'grounds'. To appeal to "acting" (i.e. 'use' and 'blind inference') in a way which secures anything more than just "acting" itself, which is what Boghossian does, seems to me to be

⁸⁴ This becomes much more evident in Part 3.

⁸⁵ I explained this to a greater degree in Part 1.

epistemically blameworthy. And this is certainly not something which Wittgenstein would endorse. Wittgenstein was willing to be a skeptic where the currency at our disposal is impoverished.

This is Wright on how Wittgenstein should be read (and this seems right to me):

Now recall

166. The difficulty is to realise the groundlessness of our believing.

And

253. At the foundation of well-founded belief lies belief that is not founded.

The first point I want to elicit from these remarks is that to take it that one has acquired a warrant for a particular proposition by the appropriate exercise of certain appropriate cognitive capacities – perception, introspection, memory, or intellection, for instance – always involves certain kinds of presupposition. Central among these presuppositions will be the proper functioning on the specific occasion of the relevant cognitive capacities. Further, I take it that Wittgenstein is suggesting not merely that such presuppositions are unavoidable but that one cannot, in the end, do better than to *take such things for granted*: claims to cognitive achievement must rest, in the end, on groundless presupposition. I think it is clear that he is right. (Wright, 2004, pp. 160, 161)

Concluding: Boghossian's epistemic account of the laws of logic means that they are stipulations of a sort. This is because, even though he argues that they must be true in ways which are not consistent with what the standard account of stipulation allows, our knowledge of what makes them true in this way is something we are blind to. Thus on one important, pragmatic semantic level, he acknowledges their stipulative nature. But he also argues explicitly to this effect elsewhere (Boghossian, 2006).⁸⁶ Yet, he has given us easy reason to believe that he takes the truth of the laws of logic to be something which is determined by more than just 'a belief in' them being a certain way. This means that their truth must be determined by 'additional collateral work' – we need to locate the facts which secure their objectivity. Such work would have to be empirical (Hale and Wright, 2003). These two points about the laws of logic render the laws of logic epistemically arrogant; they are stipulations which are true in ways beyond what stipulation permits.

⁸⁶ I discuss this in Part 3.

So, let us say that Boghossian support for inference is ‘concept-possess’ and ‘use’. That such an explication of inference, so utterly cashed out in standard conventionalist terms, might justify what it is that Boghossian thinks truth and meaning is pertaining to logic is highly doubtful. This then means that the second-order claim about knowing the conventions which determine the truth of the laws of logic and fix the meaning of logical constants are not known inferentially a priori. The second-order claim, ‘Knowledge of the linguistic conventions of logic, the conventions which determine the truth and meaning of the laws logic, is inferential a priori’, remains unjustified.

Section 3.3: Against a posteriori knowledge

To offer an *a posteriorist* account of knowing linguistic conventions,⁸⁷ such as the conventions which fix the meanings of logical constants and determine the truth of logical laws, is to say that there is an empirical/sensory foundation for such conventions.⁸⁸ In this section, where I discuss Millikan’s (1984; 2006) accounts of language I, however, depart from the current focus on logic and its ‘conventions’. Millikan’s account is a general account of language. It is an account of how we establish certain conventions of speech and how these obtain their meaning. I am not sure whether Millikan would generalise her arguments to the ‘language’ of logic. Whether or not her general account of meaning relates to the specific case of the sentences which express the laws of logic I don’t know. I have therefore focused where she does; on language in general. I shall, in the end, level only *one* of the usual criticisms against her; that her account of how we know meaning (or the conventions which fix meaning) yields an unjustified second-order claim. I do not address the possibility of epistemic arrogance in the case of Millikan, since it is not obvious that Millikan endorses anything like stipulated truth, even inadvertently. And, as we know, stipulation is needed for epistemic arrogance to take hold. Perhaps this is a project for another time. I shall indicate, when it becomes more immediately required, how I ‘mesh’ my seminal terminology with hers and her general theory.

Like with the other accounts so far discussed (section 3.1 and 3.2) and still to come (section 4) when we speak about a linguistic convention we are speaking about a norm or principle which fixes the meaning of a term, a definiendum, and determines the truth of the sentence in which it appears (section 2,

⁸⁷ I have given an explanation of what I mean by ‘linguistic convention’ in section 2; I use it as it is standardly used in this philosophical debate. I do so again in the next paragraph.

⁸⁸ I use empirical and sensory interchangeably in this section. Millikan’s account of meaning makes it about our engagement with the empirical world – so she does not use ‘empirical’ to mean ‘scientific’.

above). Our concerns, as I have explained, are standardly taken to be metatheoretical concerns about *truth* and *meaning* and how these are related to linguistic objects, such as sentences and propositions. This remains the same in this discussion of Millikan's account; we are investigating her theory about meaning and also truth. Semantic issues are central to her investigations in both *Language, Thought and other Biological Categories* (1984) and *Varieties of Meaning* (2006).

To follow is an example* of what a linguistic convention would be for Millikan. In the example the definition (in this case, implicit definition) fixes the meaning of the definiendum. It, therefore, by our present description, acts as a linguistic convention which fixes the meaning of the term 'implicatures'. Please note the sentences I have chosen to act as an example of an implicit definition is just that; an *example* of an implicit definition. I could have, just as arbitrarily, chosen one of many, many sentences in Millikan's book or from any other text, had I preferred to. It would be a mistake to take my choice as based on the content of the sentence (i.e. that which the sentence is expressing) – which we need to take note of in any particular sort of way, pertaining to the present arguments. No, it is the sentence itself which is serving as an example of an implicit definition for the definiendum 'implicatures'. So this particular definition works because, supposedly, the speaker understands all the other terms in the sentence, so constraining the use of the term 'implicatures' and fixing its meaning:

The example:

Definiendum: "Implicatures"

MLC (Millikan linguistic convention): "Consider, then, tokens that are used in nonconventional ways, for example, fresh figures of speech or fresh Gricean implicatures" (Millikan, 2006, p. 107) .

Here is an example* of what a second-order claim about this convention would be for Millikan:

MSOC (Millikan Second-Order Claim): *Knowledge of the linguistic convention, fixing the meaning of 'implicatures' and determining the truth of "Consider, then, tokens that are used in nonconventional ways, for example, fresh figures of speech or fresh Gricean implicatures", is a posteriori.*

*Both these examples are conjectured by me. They are not given as such by Millikan; as examples of a linguistic convention and a second-order claim about it. But as I explain her position it will become significantly clear that I am justified in having chosen this sentence as a linguistic convention and then to embed it in the second-order claim about it. Millikan would call the term, 'implicatures', a 'complex sign' and would call the whole sentence 'an articulate convention'.

What is it that an a posteriorist account of linguistic conventions proposes? If knowledge of a linguistic convention is a posteriori, then there must be something empirical to which that convention makes reference or which settles its truth (perhaps empirical truth-conditions of a sort). This means that if the conventions in dispute are the conventions of logic then there will be some empirical matters of fact which fix the meaning of logical constants and determine the truth of the laws of logic. Only in this way will the conventions of logic be able to 'be empirical' and 'knowable a posteriori'. And it is locating or tracking the conditions which would make true the second-order claim, 'Knowledge of linguistic conventions, such as the implicit definitions of 'implicatures', MLC, is a posteriori' which justify it. These are, of course, the same *empirical matters of fact* to which the convention, MLC, pertains. When tracking these we know whether the convention is true and what the meaning of the definiendum is.

Millikan does not engage in a typical, to borrow a term from Maddy, 'first-order' (Maddy, 2007) manner in the philosophical debates about truth and meaning. In other words, she resists talk about 'a priori', 'a posteriori', 'analytic', 'synthetic' and so on. She is a self-proclaimed naturalist and her terminology is perhaps different for this reason. She takes science to be the final arbitrator of how meaning is fixed and to say what is true. Unlike the debates advanced by theorists such as Boghossian, Hale and Wright, her arguments (1984; 2006) draw from empirical facts and not from the analysis of concepts. At least, that is the claim.

There can be no doubt that Millikan is interested in meaning and, like most, is concerned with justification (both with offering her own as well as with the justification on offer by other theorists engaged in the same subject matter). She, for instance, has a chapter on intension (Millikan, 2006, pp. 87 - 100). When she offers support for her claims, which in her case consists in offering a range of empirical facts as well as some inferences drawn from these, she is simply doing what Wright would say is offering justification for a claim about knowing something; justification for a claim about knowledge 'itself'. A knowledge claim (i.e. a claim about how we know) is a second-order claim. These might be

contrasted with, for instance, descriptive claims such as, ‘Modus ponens is valid’ (Wright, 2004). Millikan’s (1984; 2006) concerns are with meaning and truth; she aims to provide a theory about how we know the meanings of our terms and the truth of our sentences. There is therefore a significant overlap with what Hale, Wright and Boghossian are interested in.

There are two potential theoretical advantages to successfully defending MSOC: (1) an empirical/sensory basis for, for instance, the truth and meaning of MLC means that there is an end to the infinite regress to how the meaning of ‘implicatures’ is established. There seems to be general consensus, among advocates and non-advocates of a posteriorism, that an empirical basis for meaning does put an end to the troublesome infinite regress continually encountered in polemics about meaning (Quine’s attack on analyticity makes this point)⁸⁹ and (2) an empirical basis for linguistic conventions will have as a result that the epistemic account given is not viciously circular. Providing empirical matters of fact as the truth-conditions for all linguistic convention, including ones like MLC, removes the awkwardness of assuming the meaning of a definiendum whilst trying to explain how it is fixed. After all, tracking the empirical matters of fact which are at the basis of our meanings of terms, is not the same as using definitions for meaning to explain what it is.⁹⁰

I also argue that despite the two abovementioned promises that empirical accounts such as Millikan’s hold, they fail in one striking way: To *justify* MSOC is to *indicate* the sensory states of affair that are the truth-conditions for MLC. To not indicate where or what these are, is to only advertise the theoretical advantages of such conventions being empirical but not address and meet the second-order challenge of showing that this is, in fact, the case. This has the unappealing consequence of the theoretical advertisements amounting to empty promises, philosophical platitudes. To my knowledge there have been no empirical matters of fact provided, in reading Millikan, that might serve as empirical truth-conditions for linguistic conventions such as MLC, above (the point, we shall see, is that it is a highly theoretical or ‘abstracted’ convention). This leaves the second-order claim unjustified. Let us see why I think I am justified in levelling this criticism against her.

Millikan is a self-proclaimed naturalist. None of what she (1984; 2006) does, however, is a defence of naturalism itself. She assumes that naturalism is the right theoretical position for any theory about the

⁸⁹ Discussed in Part 1.

⁹⁰ I have, of course, discussed norm circularity and other such concerns in Part 1, already. I have also discussed Carnap and Quine’s take on the conventionality of logic in section 2 of this part of my thesis.

world (including the meaning of language, in general) and our knowledge of it. She, consequently, continues by offering a naturalistic account of meaning.

That our theory about the world has to be a naturalist theory I am not prepared to argue. But I am prepared to argue that a naturalist account of the specialness (or various kinds of specialness) of the mapping relation between a representation and its represented can be given – an account that places this specialness in the realm of natural science, that is, of physics, physiology, biology and evolutionary theory. (Millikan, 1984, p. 87)

Let us see what such a naturalist account of meaning, or the conventions which fix meaning, might be. Recall, I keep the conversation mostly general, i.e. about linguistic conventions in general, since this is what Millikan does. To start, a brief overview: Firstly, Millikan (1984) holds that all linguistic activity is traced back to parts of the extra-linguistic world – in her case, part of the natural world. Speaker intention (Millikan, 2006, pp. 71 - 100), which is a natural phenomenon, is one feature of this natural world that gives rise to the signs. Signs are either non-articulate or articulate signs, but all signs are produced for the purpose of communication or cooperation within the group. But they are not the sort of natural phenomena like signs of winter indicating the migration of geese to the southern hemisphere. Signs of winter are not intentions in the sense that Millikan means, because they are not signs which have the “purpose” of communicating migration (Millikan, 2006, p. 73). Signs, when the purpose is communication, cannot be accidental (Millikan, 2006, p. 75). Signs are intentional.

Secondly, meaning is fixed when signs “map” the natural world (Millikan, 2006, p. 76). Signs, she says, are representations of the speaker intentions and aspects of the world which give rise to them in the first place (Millikan, 2006, pp. 76 - 81). Millikan starts by explaining that there are many different types of signs. Some are genetically encoded (the dances of bees), conventionally determined (shared signs) or inner signs (e.g. signs about our own intentions). Millikan’s *semantic* theory pertains to what she calls “articulate conventional signs”; these are what is relevant to a theory about *meaning*. All intentional signs “mean” something (Millikan, 1984, p. 85), but what they mean is determined by the way the world is, including our conscious and unconscious states of mind as well as our need to communicate.

The ostensive or “mapping” part of sign production we leave for a short while. First, let us see what Millikan means by intentions when pertaining to meaning. She considers what it would indicate for an

‘intention’ to be something like a ‘thought’. She holds that if this were to be the case in a way which is compatible with naturalism then an account of thought had better also be consistent with naturalism - with both its descriptive as well as epistemic projects. Intentions must be yielded by the natural and scientifically explainable world (Millikan, 1984, p. 89). To be sure, if Millikan suggests that it is our intentions (not intensions) which determine the meanings of our signs then the success of her arguments hinges, at the very least, on how she construes intentions. One thing intentions cannot be is the content of sentences.

This is why: One important point in offering a *semantic* theory, partially based on ‘intentions’, is that if intentions turn out to be the content of sentences, and that *intentions and sentences together express people’s thought*, we are then compelled to ask what explains our thoughts. Instead we must give a naturalistic account of our thoughts. Intentions, if the content of sentences, cannot do the work here. To end the regress, of course, requires an empirical basis for thought. This means intentions have to be biologically based, or some such, to be of any use to an account of meaning. Unless we are able to land upon an empirical basis for some aspect of meaning making we have not avoided the infinite regress which so seems to plague semantics.

If it were not for the intentionality of people’s thoughts, which get communicated via sentences, sentences would not be intentional but would be quite ordinary objects. Clearly then, the intentionality of thoughts – say, beliefs or intentions – cannot be interpreted as like that of sentences. To attempt to interpret the intentionality of thoughts by analogy to that of sentences would lead to infinite regress.
(Millikan, 1984, p. 89)

The proposed theory of what signs are must, of course, accord with a naturalist epistemology. In other words, a theory about signs should be explainable in naturalist terms. For Millikan, language is built up of words, phonemes, syntactic structure, elements of prosody and so on. Language obtains meaning when these elements are combined to “produce the functions of the full phrases” (Millikan, 2006, p. 24). If what a semantic theory is supposed to give an account of is how words or sentences represent or “map” (Millikan, 1984, p. 10) the world then, for Millikan, this is in part done by investigating biologically based speaker intention and the *purpose* with which signs and the structure of language (i.e. grammar) is created. Inherent to a sign is its purpose or function. The idea of purpose quickly gets Millikan to ‘use’. Meaning is not determined by the usual realist notion of *truth* conditions combined with a

correspondence⁹¹ theory of truth (even though she is a self-proclaimed realist (Millikan, 1984, p. 11), but rather by a notion of *use*. ‘Use’ in the Millikanian sense is, however, very different to ‘use’ in the Wittgensteinian or Carnapian sense. For her intentional signs have a purpose and are therefore used accordingly. The use or purpose, for Millikan, is entirely explained by biological and evolutionary pressures specific to the ‘user’ (speaker or whole linguistic community) of the sign.

The lesson seems to be that if an intentional sign is the same as a purposefully produced natural sign, it must be designed to function as a sign *for some kind of interpreter* [...] a useful notion of natural sign should define a category useful to the natural epistemologist. Signs are things apt for use by sign-users. Intentional signs are signs purposefully produced for use by sign-users. (Millikan, 2006, p. 73)

Despite also appealing to the notion of use in their semantic theories, neither Carnap nor Wittgenstein has a need for a naturalist epistemology about linguistic conventions. This is because their, conjectured, second-order claims about linguistic conventions would be ‘Knowledge of linguistic conventions is a priori’ (particularly non-inferentially a priori – to be discussed in detail in the following section). If applied to MLC above, Carnap and Wittgenstein would say, ‘Knowledge of MLC is non-inferential a priori’. For a linguistic convention (i.e. an ‘articulate convention’ in Millikan’s lexicon) to be useful is for it to have practical applicability in terms of group membership. It makes itself useful by being also a “cooperative intentional sign” (Millikan, 2006, p. 73). In contrast, for Carnap and Wittgenstein ‘use’ refers to how the term is used in a sentence and relative to a particular language (such as ‘electron’ within the language of physics). Nevertheless, in what seems to be a naturalist mimicry of standard semantic conventionalism’s rejection of correspondence to truth-conditions, Millikan replaces the notion of ‘apt for truth’ with ‘apt for use’. Intentional signs are purposefully produced for sign-users by sign-users. For the record, and because it will become relevant to my critique of Millikan, truth (even though not required for meaning, in Millikan’s case) is determined in the usual truth-conditional manner entailing correspondence to the world and tracking such correspondence: when speakers who are appropriately placed to track the conditions in the world which make the ‘intentional representation’ true.

⁹¹ Correspondence is not a term comfortably used by Millikan, since she does not want to imply some sort of one-to-one relationship between a specific “truth maker” (i.e. part of the natural world) and a specific sign (Millikan, 2006, p. 48). So, when I use the term ‘correspondence’ when pertaining to her arguments, I mean it in a broader and more informal sense – just to indicate a sort of mapping relationship with the natural world, but one which is complex.

...public language forms (types) are intentional representations just when fulfilment of their functions or purposes by normal mechanisms, which entail the collaboration of trained cooperative hearers, requires that they coincide with affairs in the world according to established semantic mappings. Their continued reproduction has depended on their having served cooperative purposes of speakers and hearers often enough, and this has depended in turn on correspondence between them and states of affairs onto which they have mapped by rules to which both the speakers and hearers are adjusted. (Millikan, 2006, pp. 88, 89)

She argues for a semantic theory where “...interpreting conventional language signs is surprisingly like perception” (Millikan, 2006, p. preface x). By using “perception” Millikan directs her reader to the sensory or experiential basis of linguistic activity.

Millikan argues that intentional representations are representations of these biologically yielded purposes or functions. However, they do not signify these purposes, they *contain* or *are* the purposes they represent (Millikan, 2006, p. preface x). So ‘functions’ are ‘essential’ to intentional signs (Millikan, 2006, p. preface x). And because our intentions are an aspect of the natural (i.e. biological) world, the functions of signs are also a product of the natural world. Millikan further maintains that it is not necessary for speakers to be aware or conscious of intentions in order to understand how to use such signs – but we should accept that the signs are intentionally produced. Nor is it required that speakers know how cognition, perception and intention work to grasp meaning, which is fixed with appeal to these (Millikan, 2006, pp. 133 - 135)

So, Millikan hopes to avoid the infinite regress by making intentions the use and purpose which our conventional signs have. She insists that to look for a relationship of representation of signs to intentions is to be mistaken about what intentions and signs are. Intentions *are* signs. Signs do not represent intentions. To this extent our standard conventionalist might even concur with the spirit of this seemingly conventionalist claim. Except that our standard conventionalist does not require a naturalistic epistemology to support this claim; in fact they actively reject it. The naturalist therefore needs to say something about intentions which make them the sorts of *natural/biological* ‘objects’ which *are* articulate conventions. We know that she suggests that they will be biological, but Millikan does not show that they are. There is therefore a missing ontology.

My business is only to give a coherent account in which such items as signs, inner-representations, meaning, truth and knowledge appear and their peculiarities are understood within the natural world [...] It is not at all clear how to describe an ontology that will support this view or how to articulate the kinds of rules involved (Millikan, 1984, p. 87).

To justify Millikan's second-order claim (MSOC) would require an ontology of the matters of fact that purportedly *are* the functions of "articulate conventions". It would also be required to show a direct link between these biological properties and the conventions which are yielded by them. These would have to be empirical (let us say, be available for sensory observation). To provide such an ontology, Millikan acknowledges, is very difficult. She explains that, unlike bee dances, which are built into bee behaviour by evolutionary processes, language is learnt from reinforcing rules. And this is how rules are reinforced: The success of linguistic practices (i.e. the fact that we are able to communicate with each other and that we can distinguish between true or false indicative or declarative sentences) is because they are governed by rules. These rules, however, are not the 'freely invented' conventions of the standard conventionalist, but are rather the rules that are established by a sort of inductive success of communication and apt denotation (Millikan, 1984, pp. 99, 131). So, every time we successfully communicate with each other, we reinforce the rules implicit in our communicative behaviour. For instance, when I use the term 'a posteriori' in ways which successfully enable the people I am speaking with to participate in a conversation, the rule for how I *ought to* use it is given 'the nod', so to speak. This is what Millikan means by establishing a 'convention'.

The second way in which words and sentences acquire proper functions or purposes is derived directly from speakers' purposes in using them. The purpose of a speaker in producing a linguistic token lends it a derived proper function or purpose. Functions derived from a speaker's purpose in using a public linguistic form may or may not accord with the form's own purpose, depending on whether the speaker is using the form in a conventional or nonconventional way [...] A cooperative intentional sign has to be produced by a device designed to cooperate with its interpreting devices, the interpreting devices being, reciprocally, designed to cooperate with devices like it. (Millikan, 2006, p. 107)

An *articulate* convention as opposed to a *natural* convention, as we have already seen, signifies the distinction between, on the one hand, learnt and shared *linguistic* conventions and, on the other hand, inherent or genetically coded behaviour which leads to the sharing of non-linguistic signs, like the dances of bees.

So far so good. We now have an account which explains how we learn language and how it becomes entrenched in our linguistic practice. We know that signs are derived from (biologically determined) intentions, which first appear in their most primitive or simplest form as natural signs. This seems like a fair enough explanation of one part of an explanation of meaning (Millikan, 2006, p. 105). The other aspect of fixing meaning is denotation or referencing (Millikan, 2006, p. 106). Millikan holds that simple signs, which start from simple ostensive acts during language learning, are combined to form more complex signs. But, she warns, it is not that complex signs are comprised in a, let us say, linear, fashion of single directly mapping signs of which the meanings have been understood in a one-to-one correspondence with the empirical world. Complex signs are comprised of previously understood *meanings*, where such meanings might themselves not be a function of direct mapping. What happens in complex signs is that meanings are “abstracted” from other already known meanings. And such abstractions, says Millikan, is constrained by use and inductive reinforcement within a particular context, or “system”.

It is a serious mistake to suppose that the architectural or compositional meaning of a complex sign is derived by combining the prior independent meanings of its parts or aspects. Rather the meanings of the various significant parts of aspects of signs are abstracted from the prior meanings of complete signs occurring within complete systems. (Millikan, 2006, pp. 50, 51)

The formation of more abstract or theoretical linguistic conventions, such as MLC above, are mapping relations which are “built up” from what always starts as simple acts of ostensive definition to gradually more complex ostensive definitions, always starting with direct pointing to complex facial expression and social reinforcement. The complexity of this sort of language acquisition is only found in humans (Millikan, 2006, p. 107). Eventually, actually very quickly it seems to me, in language learning, ostensive learning is not necessary any more. Or rather it seems that most of what speakers speak about is complex in the way just described. Words or phonemes and other signs are given meaning by association and by relationship to further already established rules and conventions. These relationships are established by inductive success among sign-users and by standing in deductive and abductive relationships with each other (Millikan, 2006, pp. 104, 105). Combined with the gradually increasing complexity of ostensive definition is the expression by speakers of their intentions to signify something.

Let us say, this explains the mapping part of meaning making, even when mapping is not direct. Complexity does not make redundant the semantic requirement of mapping.

Insofar as these public signs need to map onto the world in order to complete their memetic functions normally, they also fulfil the mapping requirement for being intentional signs. (Millikan, 2006, p. 106)

Variations in the world must correspond to variations in the sign that produce adaptive variations of the signs' interpreters or consumers. Given the way consumers' activities are designed to vary with the sign, then, there will be some determinate semantic mapping function by which the sign must correspond to the world if its consumers are to perform their functions normally. (Millikan, 2006, p. 76)

To explain how complex signs are abstracted and built up, without forgoing the part that 'worldly affairs' play in such signs an explanation must be given of how signs relate to each other – since they are abstracted from each other. Usually conventionalist type theorists would turn to 'intensions', in the Carnapian sense, for an explanation, or even to 'sense', in the Fregean sense, as another sort of explanation. But this does not suit Millikan, because her naturalism does not accommodate such unworldly explanations, rendering perhaps our knowledge of meaning a priori. So, Millikan rejects meaning as intensional (Millikan, 2006, pp. 87 - 100). At least, she discusses the role intensions play in meaning, but her account of them is formulated in such a way that they are, in the end, extensions.

Notice, there has been no reference to any relatives of Quine's "creatures of darkness," to "intensions" as understood in the tradition of Carnap, nor to any relatives of Fregean "senses". I have been describing only differences in purposes and differences in semantic mapping functions that map either natural or intentional signs onto the extensional affairs that they signify. The "intensional" has been explained in completely extensional terms. (Millikan, 2006, p. 100)

In short: When signs stand in a relationship to each other, instead of to the world, they actually still stand in a relationship to the world. And, according to Millikan it is the latter (i.e. sign-to-world) relationship that matters for meaning – and definitely to truth. In fact, it is in her rejection of 'intension' as Carnapian, where Millikan makes an appeal to truth-conditions, and correspondence to such conditions, in her account of meaning (Millikan, 2006, pp. 90, 91). The point about intension, as standardly conceived, is that two intensionally equivalent representations can be exchanged for each other without changing the truth-value of a linguistic representation. But, as we know, this is possible

because intensional equivalence avoids reference to the world. So the truth is imported by *stipulating* equivalent meaning, which amounts to equivalent thought, really.⁹² She thinks this explanation of meaning (as “representing thoughts”) is in danger of losing the importance of how meaning is a function of mapping something in the world, our biologically derived intentions being part of the world. But we should also forego speak about representing ‘thoughts’ because what thoughts are is not settled by any means. Furthermore, there might be every chance that a speaker does not even know exactly what thought of their own might be related to what representation of their own, never mind another’s thoughts and representations (Millikan, 2006, pp. 96 - 98).

She is, of course, right about ‘intensions’ removing meaning from the domain or referencing or mapping or some such. But, she might be wrong about whether we can avoid this.

My critique of her position assumes that she is right about representations (those expressing articulate conventions whilst defining complex signs) being the functions of mapping and intentions. In other words, none of what I say against her is questioning this description of language learning.⁹³ However, and this is the cardinal point against an a posteriorist account of meaning such as this one, none of what she says, even if correct, explains how we know meaning nor convinces that meaning might be understood a posteriori. To my mind, she has given a plausible theory of how language learning works. But what Millikan has not convinced me about is that the *meaning* of ‘implicatures’ in an “articulate convention” – her term – such as “Consider, then, tokens that are used in nonconventional ways, for example, fresh figures of speech or fresh Gricean implicatures” is *known* a posteriori. No amount of talk about ‘mapping’ and ‘representation’ and ‘worldly affairs’ justifies the second-order claim : *Knowledge of the linguistic convention which fixes the meaning of ‘implicatures’ and determines the truth of “Consider, then, tokens that are used in nonconventional ways, for example, fresh figures of speech or fresh Gricean implicatures”, is a posteriori.*

Even though Millikan pays no overt attention to the distinction between ‘a priori’ and ‘a posteriori’ and other such metatheoretical terms, her naturalist commitments ensures that her epistemology assumes a posteriorism about knowledge. Does she think talk of knowledge is important in talk of meaning? Yes.

⁹² All explained in Part 1, section 3.4.

⁹³ Of course, in my view, whether Millikan is right or wrong about language learning depends on matters not philosophical.

Knowledge is a seminal part of what she takes natural signs to be; to the extent that she takes the notion of a natural sign to be an “epistemic notion”.

A natural sign of a thing is something else from which you can learn of that thing by tracking in thought a connection that exists in nature. The notion of a natural sign is at root an epistemic notion. (Millikan, 2006, p. 37)

Intentional signs are epistemic too, since “they can be false” (Millikan, 2006, p. preface x). For Millikan, knowledge of ‘conventional signs’ (which are one type of intentional sign and are represented by things like sentences (Millikan, 2006, p. preface)) is knowledge we gain from our senses. But this might only be indirectly sensory or empirical, since Millikan allows for the sensory knowledge of the original intentions and directly mapping signs *to be absent* from understanding the meaning of a term or the rules expressed by complex linguistic conventions. An example is the definiendum “implicatures”; when it is being implicitly defined within MLC we very evidently do not have knowledge of the worldly affairs and even the myriad other representations from which both “implicatures” and MLC as a whole have been abstracted and constructed. Certainly in my case, the pathway all the way back to the biologically yielded intentions and other ‘mapped’ worldly affairs from using the term “implicatures” as well as using most of the other terms within that sentence, is not something I have a posteriori knowledge of. Meaning has been fixed, in my case, in a way completely distinct from the empirical knowledge of which Millikan speaks.

If speakers are allowed to (by her account) enter into, let us call it, meaning fixing at a point far removed from the original intentional sign standing in a direct mapping relation to the worldly affairs, then they are entering at a point where they have no empirical knowledge of that which fixes meaning; no knowledge of the biologically based intentions and representational mapping. It seems therefore that whether meaning can or cannot be traced back to simple signs expressing mapping relations and biologically driven intentions is *irrelevant* to a theory of meaning and is also *redundant* to actual meaning fixing, at a particular level. Or, put another way, when meaning is understood/known at a high level of abstraction, then all the work that intentions and mapping is supposed to do, is *de trop* when we need to offer a *semantic* theory.

Does it happen often that meaning is fixed at such a high level of abstraction? Well, many of the sentences in Millikan's (1984; 2006) two books look like MLC to me. And near everything I have written in this thesis looks the same; and as understood in a way which is independent of empirical knowledge of the purported original natural and intentional signs or mapping relations. In any event, where meaning is fixed at this level it seems that the claim that we know it a posteriori is not only unjustified, but seems positively false. This leaves the second-order claim, MSOC, at minimum, unjustified.

Section 4: In defence of non-inferential a priori knowledge

What about the non-inferential options? If a given item of knowledge is non-inferential, then it is either justified by observation alone or it is justified by nothing. For reasons that I don't have the space to rehearse here, it seems to me very implausible that one can be said to know the general proposition that any argument of the form MPP is valid on the basis of nothing, as though all one would have to do to be justified in believing such an ambitious proposition is simply to believe it. If there is to be any hope for the non-inferential option, it must lie along the observational branch. (Boghossian, 2003, p. 230)

Implicit definition can underwrite (non-inferential) a priori knowledge only if it serves not merely to constrain the meaning of the definiendum in the [...] reference-fixing model, but to *explain* meaning in such a way that it can be grasped by someone who antecedently lacks (the resources to define) the concept which the definiendum thereby comes to express. (Hale and Wright, 2003, p. 25)

Truth conditional accounts of meaning have become standard since Frege suggested that to grasp meaning is to grasp truth-conditions (Wiggins, 2006, p. 3). I hope to have shown that Millikan's account of meaning does not escape this requirement. But this criticism of Millikan's position should not be seen as a defence of the truth-conditional account of meaning, unalloyed. The point to follow is that sometimes there are situations where meaning is available yet truth conditions, realistically construed, are not. Truth, then must still feature in semantics, but truth conceived in a different manner; conventional or antirealistically. What follows is a defence of a version of conventionalism (this term will not appear much, however) and why this yields better semantic and epistemological theories under specific conditions.

We turn to alternate (to realist) semantic theories when our linguistic conventions do not meet the requirements for a full blown truth-conditional account of meaning. The requirement is that we have cognitive access to the truth-conditions advertised (Wright, 1992). The examples of such conventions are numerous and they might fail to meet these requirements for a range of reasons specific to the exact type of linguistic convention we speak of. It is unnecessary for me to here rehearse, or list, what those might be. In what follows I draw from the general principle that meaning, when not attached to truth-conditions of the type which correspondence theories postulate, must be fixed some other way.

What then must be said about knowing linguistic conventions; particularly about knowing the implicit definitions which determine the truth and fix the meaning of logic sentences? If the meaning of a sentence is related to the conditions under which it is true, then there can be no knowledge of meaning if there is no knowledge of truth conditions. It is impossible to take seriously how objective and mind-independent matters of fact would aid fixing the meaning of a term when the acquisition and then manifestation of knowledge of these truth conditions seems to be impossible (Hale, 2006, pp. 275 - 280). This is a matter which is discussed by analogy in the introduction to Part 1, where I pose a conversation between Goethe and Marlowe. Such mind-independent matters of fact must, if able to aid *comprehension* of use and meaning, be *cognisable*. It is for this reason that realist accounts of meaning, i.e. *semantic realism* (Hale, 2006; Wright, 1992; 1987), despite all the promise of the objectivity of truth and meaning, fail to give a workable semantic theory for much of our language.

But the classical truth-conditional conception of meaning breaks faith with this thought wherever it construes the kind of state of affairs that would render a particular statement true as something that can impinge only indirectly, or in part on the faculties of one who understands the statement [...] testing must rather proceed by reference to conditions that we, the testers, can monitor and of whose obtaining our subject can be presumed to be perceptually aware (Wright, 1987, p. 276)

How do semantic disputes, such as the dispute between semantic realism and antirealism, relate to accounts which defend the traditional connection? This will become clearer as we go on from here. But in short: I draw the connection because the proponents of the traditional connection hold that the implicit definitions of logic are known non-inferentially a priori. They hold this position because it avoids the realist dilemma explained above. An introductory appeal to semantic realism-antirealism disputes, as established by Dummett and developed further by some of his followers (Hale, 2006; Wright, 1992) seems, to me, to be one of the most effective ways of laying out the problems central to semantic

disputes. This is also the case in a dispute about the implicit definition of logical terms and how we know these definitions.

I have already explained what is meant by 'stipulation' and 'arrogance'. I contrasted 'stipulation' with 'factual statement'. A factual statement is one which, very roughly put, makes reference and is for this reason non-trivial or informative.⁹⁴ A stipulation (unless arrogant) is not factual in this sense; it is non-referring. I also explained what a 'second-order' claim is. I then, over sections 3.1, 3.2 and 3.3, rendered three accounts of how linguistic conventions might be known and argued against all three. I showed, in each case, that these epistemologies render either linguistic conventions arrogant or the second-order claims about them unjustified, or both. In the light of having rejected intuition, inferential *a priori* knowledge and a posteriori knowledge of linguistic conventions I now consider the reasons why linguistic conventions, here particularly implicit definitions of logical terms, are knowable non-inferentially *a priori*. Given the preceding arguments, and consequent eliminations, it seems that not much work is needed to draw this conclusion.

To preserve the traditional connection between linguistic conventions and non-inferential *a priori* knowledge is to offer justification for the following second-order claim: 'Knowledge of linguistic conventions (e.g. the implicit definitions of logical terms) is non-inferential *a priori*.' I presume to have already given a clear indication of what it is that I take *a priori* to be, or rather '*a priori*' to *mean*, both in Part 1 and also in the first section of this part. However, *a priori* knowledge has been, in Part 1 at least, associated with knowledge of inference or deduction; in short, knowledge yielded by logical processes. But, it turns out that there are instances of knowledge which are not adequately explained as being either empirical knowledge or knowledge from logical processes. There seem to be cases of knowledge which are evidently non-empirical, yet are not strictly deductive (inferential). An example is the knowledge which we have of the axiomatic laws of logic. At times I shall speak of them as the linguistic conventions of logic. And if the title of this thesis is to be effectively defended it had better be the case that the conventions known in this way are of a very particular type. It is for this reason, i.e. being against the *a priori* knowledge of non-trivial truths, that I now argue that non-inferential *a priori* knowledge must be knowledge of trivial truths. To succeed in this goal is to have defended the traditional connection.

⁹⁴ A detailed discussion of 'fact' and factual statements has already been provided in both the thesis introduction as well as in Part 1.

Before we continue, here is a clarification of the polemic about knowledge of logic or the conventions of logic. The polemic is not a result of being mystified about whether logical laws *really* yield valid inferences. I think there is a general consensus that, given particular understandings of logical terms, the rules, when these are followed, give us ways of drawing valid inferences. Rather, the polemic is based on a disagreement about whether or not we have made up those laws (or rules) or whether they are objective. If logic is objective then to justify it would require tracking the objective matters of facts upon which logical laws are based. If it is not objective then its justification is circular, because it justifies itself. By now it should be obvious that another way of saying logic is circular is to say that it is analytic.⁹⁵

An argument for the knowledge of linguistic conventions being non-inferentially a priori would have to be supported in such a way that it, as a second-order claim, emerges justified. One way to provide such a justification is to give an account of linguistic conventions which renders them non-arrogant. But if non-inferential a priori knowledge is knowledge that has not been inferred, then it is either (1) knowledge of that from which inferences follow (e.g. knowledge of some axiom or premise) or (2) it is knowledge of something which has nothing to do with inference at all – it is neither that which is inferred from, nor that which is inferred. Furthermore, not option (1) or (2) must presuppose any type of empirical knowledge. If linguistic conventions, such as the implicit definitions of logical terms, are known non-inferentially then which option, (1) or (2), expresses the conditional correctly?

Choosing will be informed by what we must take ‘linguistic convention’ to mean, to be consistent with ‘non-inferentially’ and ‘a priori’. Factual propositions have truth conditions that are mind-independent and objective. Can mind independent and objective truth conditions be known a priori? Or, said another way, can the truth of factual statements be known a priori? No, it cannot. The only way in which a priori knowledge might be knowledge of objective matters of fact is if it is intuitive knowledge and the matters of fact which are intuited are of the type that does not require sensory apprehension.⁹⁶ What such things might be is not for me to speculate about. I have, however, argued against intuition (i.e. a priori/rational apprehension) in section 3.1. And I have there given reasons why it makes no sense to speak of having knowledge of the objective foundation of logic when all that is *actually* known is that

⁹⁵ In Part 3 we shall see a case (Boghossian, 2006) for logic being analytic but not circular. This, of course, is a position which undermines one of the most seminal features of analyticity, as here endorsed. I shall argue to this effect in this chapter.

⁹⁶ Arguments to this effect are found in section 3.1

our inferential rules are true relative to what we take our logical terms to mean. They are therefore trivially true. All that has been established by valid inference is correct rule use, relative to an accepted set of linguistic conventions about the meanings of particular logical terms. For these reasons then we rule out option (1) above; there seems to be nothing to have a priori knowledge of, which could serve as the factual basis for the axiomatic laws of logic. I have also argued in the previous section 3.3 that most of the linguistic conventions, which we are interested in giving a semantic and epistemic account of, are not knowable a posteriori (or empirically). There is, therefore, no empirical basis which is the object of our knowledge of linguistic conventions, or from which we might infer knowledge of linguistic conventions. Even though I did not specifically argue this point regarding the conventions of logic, I take my arguments there to be generalisable to logic. We rule out option 1.

Option 2 seems to be the right one. Non-inferential a priori knowledge is knowledge which is neither inferred nor that which we infer. To understand the position I am about to defend and which Hale and Wright (2003) defend, bear in mind this analogy, which I pose here as a question and some answers:

What do we know when we know the rules of chess? We know how to use the chess pieces. We know when someone has won. We know, well or less well, what to do to win ourselves. Yes, we have learnt these rules, moves and strategies from someone or a computer or some such. We have learnt the conventions of chess. What we have not learnt, however, is that chess *references* to chess-independent “worldly affairs”, whether these are empirical or non-empirical. Nor have we learnt that it is possible that the rules of chess are the wrong rules, based on knowledge of some *antecedent* facts about chess, which we have failed to emulate. Even though chess rules have in fact changed, many would say for the better, no one would claim that the previous rules were somehow ‘false’ or ‘wrong’. Similarly, what we have not learnt is that the rules of chess are the right rules, based on knowledge of some *antecedent* chess-rules, which we have aptly emulated. Being able to play chess does not indicate that we have landed on an objective basis for chess. Chess, therefore, is, more than likely, simply a set of invented and stipulated rules.

Implicit definition establishes the meaning of a term, or definiendum, by placing constraints on how it can be used in a particular sentence. This is achieved by the context (i.e. longer sentence or expression and also the greater context) of which it is part. The thought is that by understanding all the other terms in that expression the meaning of the definiendum is established by ‘forcing’ a speaker to use the

definiendum consistently with the other terms, already understood. And it is by stipulating that a sentence is true that a speaker is forced to use an initially undefined term in a particular way.

An explicit definition aims to supply a semantically equivalent expression of the same syntactic type as its definiendum. Implicit definition, taken as the complement of explicit, embraces a variety of subtypes. What all have in common is the idea that we may fix the meaning of an expression by imposing some form of constraint on the use of longer expressions— typically, whole sentences— containing it. On one traditionally influential conception, this constraint is imposed by the (putatively) *free stipulation* of the truth of a certain sentence, or range of sentences, embedding the definiendum and composed of otherwise previously understood vocabulary. (Hale and Wright, 2003, p. 1)

Logical terms are implicitly defined because implicit definition works in the absence of antecedent matters of fact which might establish the truth of the laws of logic and the meanings of logical terms. A term is implicitly defined when there is no manifest referent, yet it seems to have meaning nevertheless. Furthermore, the advantage of implicit definition is that it is able to perform the function of fixing meaning without knowing the explicitly stated definition of the same definiendum. So, logic terms become implicitly defined even when the users of logic do not know the relevant logical rules in their explicit and generalised form. Standardly, a term is implicitly defined when the sentence in which it occurs is “arbitrarily” stipulated as true. “Arbitrarily” is taken to mean what most endorsers of implicit definition mean by it; truth is established, for all intents and purposes, only by saying that it true. A logical constant is then implicitly defined by its correct or consistent use within an inference. The inference is taken to be valid because the rule which says it’s valid has been stipulated to be a ‘true’ rule.

It is by arbitrarily stipulating that certain sentences of logic are to be true or that certain inferences are to be valid, that we attach meaning to the logical constants. More specifically, a particular constant means that logical object, if any, which would make valid a specified set of sentences and/or inferences involving it. (Boghossian, 2006, p. 348)

But now we have a situation where terms are defined by simply saying that a sentence is true. Here the only requirement for understanding a logical term is then that it is meaningful in a way which is consistent with other similarly invented meanings of logical terms.

We take some sentence containing— in the simplest case— just one hitherto unexplained expression. We stipulate that this sentence is to count as true. The effect is somehow to bring it about that the unexplained expression acquires a meaning of such a kind that a true thought is indeed expressed by the sentence— a thought which we understand and moreover know to be true, without incurring any further epistemological responsibility, just in virtue of the stipulation. (Hale and Wright, 2003, p. 3)

This has the, seemingly, unappealing and, certainly, counter intuitive result of truth being somehow a matter of us ‘saying so’ and meaning then being a matter of invention. But, and herein lies the nub of the present arguments, truth, when determined by stipulation is not full-blown factual truth such as that which is implied by correspondence theories of truth. Truth in this sense is stipulated truth. And stipulated truth cannot appeal to reference fixing nor can it appeal to antecedent matters of fact which must be known in any other way than what can be known from stipulation (which is not very much at all). Stipulated truth must be able to stand alone, so to speak. It must achieve the goal of fixing meaning without further collateral work required.⁹⁷ It is only in doing so that the traditional connection is preserved.

If it so succeeds, our intention to fix a meaning by the stipulation will suffice to ensure that there *will be* a suitable meaning— there is no additional requirement of co-operation by a self-standing realm of meanings. This broad orientation is, we believe, crucial if justice is to be done to the traditional connection. (Hale and Wright, 2003, p. 7)

The only way in which implicit definitions are knowable non-inferentially is when they are stipulated thus, since stipulations are not inferred and they are simply expressions of our “intent” (Hale and Wright, 2003). This, however, assumes that definitions must function without the presence of further or pre-existing meaning facts, such as the type which realists about logic might want to postulate. There can be no reference fixing of the type which is consistent with a platonism about logic. Meaning, in the case of implicit definition, is a matter of what we say it is, not of tracking more objective facts about meaning.

But the analogy obscures the point that, for any but the extreme realist, the existence of an appropriate meaning is not an antecedent fact of metaphysics, so to speak, but— (to oversimplify horribly; qualifications to follow) — a *matter of our intent*. (Hale and Wright, 2003, p. 6)

⁹⁷ My introduction to this section has more helpful statements regarding the collateral epistemic work

The second requirement for legitimating the second-order claim that the conventions of logic are knowable non-inferentially a priori is that the conventions, in this case the implicit definitions of logical terms, do not attempt to fix references. If this is right, of course, it is further reason for rejecting realism about meaning.

This sense of the problem seems again to be largely inspired by a combination of platonist imagery and a misconceived analogy between implicit definition and reference fixing. (Hale and Wright, 2003, p. 8)

But whether we are right or not about Platonism or realism about the truth and meaning of logic (and we *should* remain agnostic, on the whole) there is no doubt that to defend the inferential a priori knowledge of the implicit definitions for logical terms is *only* consistent with a non-realist position. It is only when linguistic conventions are non-referring and free of any other metaphysical import that they do not outrun the manner in which they are evidently known. And what *is* evidently the case is that in the absence of knowledge of realist truth conditions (which is the *actual* situation), inferential a priori knowledge is the only type of knowledge which is consistent with this situation.

Our underlying suggestion will be, of course, that an implicit definition which avoids these pitfalls will indeed have what it takes to instantiate 'the best case' of use-fixing, and thereby to sustain the traditional connection with non-inferential a priori knowledge. (Hale and Wright, 2003, p. 19)

To know the rules of chess is to know them non-inferentially because there is nothing antecedent to know before knowing the rules of chess, *which necessitates* knowledge of the rules of chess. And to know the rules of chess is to know them a priori. This is because, despite having learnt them (which inevitably involves flesh and blood and a world in which to do so), the rules are *without empirical significance* – to our knowledge, they do not refer. The rules of chess will be 'true' irrespective of what the empirical states of affairs actually are. This is what we mean when we say we know something a priori. And this is why we say the truth that we know in this way is trivial.

One clear desideratum to have emerged is that a satisfying account of explanation via implicit definition must leave room for the capacity of such explanations to *invent* meanings... (Hale and Wright, 2003, p. 12)

For the second-order claim 'Knowledge of the conventions of logic is non-inferential a priori' to be substantiated such conventions must be non-arrogant. And non-arrogance is only secured by rejecting reference fixing and antecedent meaning facts for logical terms. In the glaring absence of the metaphysics advanced by a realist truth-conditional account of the conventions of logic, the non-arrogance of the conventions of logic seems to be a feature which arrives effortlessly to these disputes.

Conclusion

Once we have ruled out notions of a priori knowledge which makes it something like rational apprehension or intuition, legitimate forms of a priori knowledge can be conceived of as either inferential or non-inferential. In Part 1 I gave brief accounts of a priori knowledge as inferential; as knowledge yielded by logical procedures. There I provided synopses of *inferential* a priori knowledge by way of explicating Frege and Carnap's notions of analytic truth. No more has been said about inferential a priori knowledge. What has been of interest to me, however, are the sorts of sentences which seem not to be justified a posteriori (empirically), yet are also not known inferentially. Examples are the linguistic conventions of logic and, seemingly, the meaning postulates (also linguistic conventions) which form part of the axiomatic basis of other types of language systems. These are not inferred and are not justified a posteriori. I have argued to this extent in sections 3.2 and 3.3 respectively.

A priori knowledge, when non-inferential, provides an interesting case for knowledge which is knowledge of one's own, or a linguistic community's, invented and shared linguistic convention. The trade-off in cases where *we say* what is 'true' (whether this is explicitly acknowledged or not) is that we are in constant danger of a lurking epistemic arrogance. The way in which to avoid this arrogance is to insist that all linguistic conventions which are true in this manner are non-factual (i.e. trivial). In section 4 I have cashed out 'trivial' as stipulated and non-referring.

It is the function of Part 3 to look in greater detail at what can go wrong with an account of analytic truth if we want it also to be factual in terms of meaning.

Part 3: Analytic truth as constructed truth

Introduction

Boghossian (2006) argues that the constants of logical sentences are implicitly defined. However, though it is more usual for proponents of implicit definition to adopt a type of irrealism about meaning facts (Boghossian, 2006; Hale, B and Wright, C. 2003), Boghossian (2006) rejects both non-factualism and conventionalism.⁹⁸ He provides an account of analytic truth, which he believes renders it compatible with Frege-analyticity, i.e. that analytic truth is logical truth, yet he argues that this position is consistent with realism about meaning. Furthermore, Boghossian argues, since realism about meaning facts for logical sentences is correct they are not factually contentless.

A quick reminder that the difference between an implicit and explicit definition is as follows: An explicit definition offers a definiens for a term which is equivalent in meaning (i.e. semantically equivalent) to the definiendum. Whereas an implicit definition establishes the meaning of a term, or definiendum, by placing constraints on how it can be used in a particular sentence.

My focus here is particularly on the meanings of logical constants. Examples of logical constants are, translated into natural language, terms such as 'if', 'then', 'therefore', 'and' or 'or'. For this I look at Boghossian's (2006) account of the meaning of logical constants. I have already explained (Part 2, section 2) that, standardly, a term is implicitly defined when the sentence in which it occurs is "arbitrarily" stipulated as true. "Arbitrarily" is taken to mean what most endorsers of implicit definition mean by it; truth is established, for all intents and purposes, only by saying that it is true (Boghossian, 2006, p. 348; Hale and Wright, 2003).

The above thesis of implicit definition is one which is consistent with conventionalism about truth and non-factualism about meaning. This is why it is considered to be standard; because conventionalism and non-factualism are usually presupposed by defenders of implicit definition. Boghossian here cites Wittgenstein and Carnap. It, therefore, seems fair to say that this is not exactly what Boghossian's thesis about implicit definition is. At least, it should not be since his present arguments (2006) argue directly and explicitly against conventionalism and non-factualism. He does, however, not explicitly offer another thesis of implicit definition; one which would be consistent with

⁹⁸ I take 'irrealism' to be a blanket term for these two theoretical positions.

a 'non-conventionalist' position about truth and 'factualist' position about meaning. One which he would, consequently, endorse. And since it is the conventionalism and non-factualism of implicit definition which imports the 'arbitrariness' of the stipulation, one would expect Boghossian's thesis of implicit definition to not contain the term 'arbitrary' since he argues against conventionalism and non-factualism.

How to continue then? What exactly does *Boghossian* mean by implicit definition? Because if the explicitly stated thesis of implicit definition above is, in fact, the one Boghossian follows then there is, of course, immediately an inconsistency in his overall position; he cannot argue for factualism and non-conventionalism and hold that the stipulation is arbitrary. However, if he means something else by 'implicit definition', something which does not include the concept of 'arbitrary', then this would at least stand a better chance of being consistent with the rest of what he argues. But would a thesis of 'implicit definition' which does not include 'arbitrary' even look like anything any other defender of implicit definition might recognise as such? Is there then even a coherent discussion to be had about implicit definition once 'arbitrary' is left out of the statement of its thesis?

I continue as follows: The standard view, according to Boghossian, is that terms which are defined implicitly are the constituent terms arbitrary stipulations. And he offers such a thesis of it (quoted above). Boghossian, however, wants to argue a very particular point:

What I dispute is that it *follows* from the fact that a given sentence Q is being used to implicitly define one of its ingredient terms, that Q is not a factual sentence, not a sentence that "tells us anything that is the case." These two claims seem to me entirely independent of each other. (Boghossian, 2006, p. 350)

To me it seems clear that Boghossian is happy to endorse the above formulation of the thesis of implicit definition, including the use of the term 'arbitrary'. His point is much more nuanced than out rightly rejecting the cardinal feature of arbitrariness from a definition of 'implicit definition'. He is simply holding that *even if it seems to us* that there are no facts about logic, facts about what is the case about logic, and that we therefore *seem to be arbitrarily stipulating* the truth of logical principles, it does not "follow" that *there are, in fact, no facts* about logic. Furthermore, it does not follow, for Boghossian, that a seeming arbitrary stipulation settles the dispute about facts about logic. I, therefore, continue my arguments assuming that the above articulation of the thesis of implicit definition is indeed the one that Boghossian endorses; *with* the inclusion of arbitrariness in the workings of implicit definition.

The standard view (i.e. the view endorsed by Carnap, and Hale and Wright) is that the implicit definition of terms presupposes that there are no “antecedent” (Hale and Wright, 2003), objective facts about the meanings of such terms. The meanings of implicitly defined terms are established entirely by their conventionally attributed truth. This means that the standard view of implicit definition presupposes ‘non-factualism’ and ‘conventionalism’ about meaning.

By logical non-factualism Boghossian means “the view that the sentences of logic that implicitly define the logical primitives do not express factual claims and, hence, are not capable of genuine truth or falsity.” (Boghossian, 2006, p. 348)

By logical conventionalism Boghossian means “the view that, although the sentences of logic are factual – although they can express truths – their truth values are not objective, but are, rather, determined by our conventions.” (Boghossian, 2006, p. 349)

Boghossian departs from this view; he rejects non-factualism and conventionalism about the meaning of implicitly defined logical constants. Being a proponent of implicit definition, he says, is consistent with holding that there are facts about meaning and that the meanings of the logical constants are established by these facts and, therefore, not by conventions. Rejecting non-factualism and conventionalism makes Boghossian a realist about meaning. We shall call the opposite view (i.e. the standard view for endorsers of implicit definition) to Boghossian’s view, ‘irrealism’ about meaning, with Hale and Wright (2003). ‘Irrealism’ entails *endorsing* non-factualism and conventionalism about implicitly defined terms.

How does Boghossian’s realist view of implicit definition relate to his account of “analyticity” (Boghossian, 2006)? He holds that the sentences of logic, in other words the sentences of logic which have implicitly defined logical constants, *are analytically true*. So, the arbitrarily stipulated truth, which he thinks such sentences have, is analytic. Analytic truth is therefore an integral part of an account of implicit definition in that it is a consequence of it; implicitly defined terms are parts of sentences which are analytically true. However, Boghossian’s realism about meaning entails that his particular account of “analyticity” is also consistent with realism about meaning. This, we shall see, has implications for his account of analytic truth and is what makes it fundamentally different to Carnap’s.

The reason why Boghossian is unable to commit to the standard view of implicit definition is because he thinks that the presupposition of objective meaning facts *is required for our warrant* for the epistemic certainty we seem to have about elementary logical truths. Without such facts, we are not warranted in

thinking logic is justified. But, since we seem to have knowledge (a priori) about conceptual or analytic truths, there must be facts *to be known*, says Boghossian.

On the assumption that our warrant for believing in elementary logical truths cannot be explained, the outstanding problem is to explain our a priori knowledge of conceptual truths [these being analytic truths]. For this purpose, the crucial semantical notion is that of Frege-analyticity. I have argued that this notion is bound to be *in good standing for a meaning realist*. (Boghossian, 2006, p. 358) (Square brackets and emphasis are mine, CR)

I argue that accepting factualism and rejecting conventionalism about the meanings of implicitly defined logical constants, as Boghossian does, is not only *not required* for the a priori knowledge of the relevant range of sentences, but that *it actively undermines* the idea that we can have a priori knowledge of the meanings of the terms of such sentences. This argument, of course, rests heavily on the explications and arguments which come before. If the content of knowledge is factual, then the knowledge cannot be a priori. To claim that it can be is to immediately endorse nothing other than the synthetic a priori.

My arguments run as follows: Since the implicit definition of a term is premised on the *arbitrary* stipulation of the truth of the sentence in which it occurs, holding that there must be facts which determine the truth of that sentence is inconsistent with endorsing implicit definition for its ingredient terms. That is because if the truth is determined by facts it cannot have been arbitrarily stipulated. In this regard I follow Hale and Wright:

So a thinker who is party to a stipulative acceptance of a satisfactory implicit definition is in a position to recognise both that the sentences involved are true – precisely because stipulated to be so – and what they say. (Hale and Wright, 2003, p. 26).

Boghossian rejects the idea that ‘speakers saying that a sentence is true’ can make it so. He explicitly commits himself to a notion of truth which requires for it to be determined by the way the world is. This causes some conflict between endorsing implicit definition, of the ‘*arbitrarily* stipulated to be true’ type, which he does, and implicit definition which, he claims, is consistent with realism about meaning facts. I argue that there is no coherent manner in which both positions can be held.

My suggestion is that overlooking the crucial distinction between *minimal* truth (Hale, 2006), and the sort of ‘knowledge’ we have of such truths, and *inflated or substantial* truth (Hale, 2006) and the sort of knowledge we have of such truths, is what results in the abovementioned confusion or incoherence. Boghossian’s arguments against non-factualism and conventionalism do not take into account this

distinction. This is evidently also the reason why he rejects the positivists' notion of 'truth generated by linguistic meaning' (Boghossian, 2006).

Boghossian explains that the positivists, who were endorsers of implicit definition (he cites Wittgenstein and Carnap), but also conventionalism and non-factualism, held that necessary truth is generated by linguistic meaning. The positivists, he says, were wary of making claims which entailed commitments to "language-independent" and "objective" truth conditions for necessities (necessary truths). They consequently reverted to what seemed a more conservative and perhaps more plausible or defensible account of necessity; that *all necessary truth* is linguistic necessity. This they achieved by making truth the product of linguistic conventions. The view that all necessity is linguistic necessity yielded by conventional decision making, for Boghossian, means that *truth* is "generated" by linguistic meaning.

Guided by the fear that objective, language-independent, necessary connections would be metaphysically odd, they attempted to show that all necessities could be understood to consist in linguistic necessities, in the shadows cast by conventional decisions concerning the meaning of words. Linguistic meaning, by itself, was supposed to generate necessary truth; a fortiori, linguistic meaning, by itself was supposed to generate truth (Boghossian, 2006, p. 336)

What Boghossian means by "objective, language-independent, necessary connections" are the sorts of connection between language (in this case the sentences which express logical principles) and the "realist" meaning facts he takes to be required for the knowledge of logic (Boghossian, 2006). Such facts are "antecedent" (Hale and Wright, 2003) to language formation (or the formation of logic, in this case) and are the external standards of correctness or truth which our sentences must "track" (Hale, 2006; Wright, 1987). We shall see that it is only when we presuppose that analytic sentences, in this case the sentences expressing logical principles, correspond to such facts that we can speak about having knowledge of them at all. Boghossian does not think the truth of logical principles is generated by convention. The truth of a sentence (or a 'class of statements'), in the present discussion the sentences expressing logical principles, to him, is a matter of that sentence corresponding to parts of the world.

In general, I have no idea what would constitute a better answer to the question: What is responsible for generating the truth of a given class of statements? than something bland like 'the world' or 'the facts'; and, for reasons that I have just been outlining, I cannot see how a good answer might be framed in terms of meaning in particular. (Boghossian, 2006, p. 336)

Given that the truth of a sentence, for Boghossian, is generated by “the world” or “the facts” and not by linguistic meaning when the truth of that sentence is conventional, he rejects the positivists’ account of analytic truth. A function of Boghossian’s view of truth being determined by facts is that *analytic* truth is determined by facts about *meaning*. It is exactly with this understanding of analytic truth where Boghossian departs from, for instance, the Carnapian account of analytic truth.

Boghossian argues that without holding that there are “objective” facts of some kind to warrant our calling analytic sentences true there is no sensible way for us to speak about ‘knowledge’ of their truth. Summarily, Boghossian holds these two positions regarding analytic truth: 1. He explicitly rejects a ‘truth by linguistic meaning’ of analytic truth when truth is conventional and, 2. He endorses an “epistemic account” of analytic truth (Boghossian, 2006, p. 332). The “metaphysical notion” is what he attributes to the positivists:

For I believe that an entirely distinct notion of analyticity underlies that explanation, a notion that is epistemic in character. And in contrast with the metaphysical notion, the epistemic notion can be defended. (Boghossian, 2006, p. 332)

What an epistemic account entails is that, for us to have knowledge of the meaning of analytic sentences, there must be some substantial ‘facts’ to have knowledge of. In adopting an epistemic account of analytic truth he therefore argues against non-factualism and conventionalism about analytic sentences. With the particular focus on the analytic status of logical principles and the meaning of logical terms he therefore takes himself to have argued for factualism about logic.

Firstly, I show that Boghossian’s account of the sentences expressing logical principles as analytically true, yet factual, means that his account of analytic truth renders such truths, in the case of logic, non-trivial. Furthermore, he argues that we know both the truth and meaning of such sentences a priori. Boghossian has, consequently, argued in favour of the a priori knowledge of non-trivial truths. I then argue that such a position is untenable if we take analytic truths to be trivial truths and that only knowledge of trivial truths can be a priori.

Section 1: Boghossian against conventionalism and non-factualism

The positivists with whom he concerns himself are Wittgenstein and Carnap (Boghossian, 2006, pp. 346 - 350). Boghossian, up to a point, keeps to what I think the right description of Carnap-analyticity is. He

follows Coffa in doing so (Boghossian, 2006, p. 347). He follows Coffa's historical exposition of 'analytic truth'. Very briefly, this is that analytic truths were first thought to be grasped intuitively as necessary truths. Such truths were necessary truths about the nature of reality. So they were metaphysical and factual in this sense. They were certainly "objective" in the sense that they were not merely language relative truths. However, after some revisions of the axioms of classical geometry, which had always been thought of as necessary and consequently unrevisable, this view of what is necessary and how we know necessities was unsettled. This, as I have explained⁹⁹, and as Boghossian does, leads to the Fregean and later Carnapian notions of the logical provability of analytic truths. It also leads to the unsettling of what is a priori and necessary and is what eventually leads Carnap to his account of necessary truth as language relative truth.

The immediate problem to be addressed by those wishing to save 'necessity' and 'a priority' is how to give an account of those sentences which we seem to know a priori and seem to be necessarily true, *but* which have not been deductively arrived at. For instance, what do we think about the axioms of logic; principles upon which other systems of knowledge are built, but which evidently are not the products of logical processes either? Once necessity is solely the product of deduction or logical provability, it is not possible to explain how a term like 'distance' can have two distinct meanings; one as determined by Euclidian and another as determined by non-Euclidian geometry. One of the solutions (the one adopted by some of the logical positivists) is to think of *ourselves as determining the meaning of a term* when we decide to take the sentence in which it occurs as true. We determine the meaning by stipulating that the sentence is true and, in so doing, implicitly define its terms. In such a sentence *stipulation* and not "the world" or "the facts" is what determines the truth. In such cases, say the positivists and others (Hale and Wright, 2003), truth can for obvious reasons not be factual.

Boghossian says that Carnap and Wittgenstein wrongly took implicit definition as support for the view that there are no facts about the meanings of the terms of analytic or logical sentences.

Why did the proponents of Implicit Definition feel the need to go beyond it all the way to the far more radical doctrines of logical Non-Factualism and/or Conventionalism? Whatever problems it may eventually be discovered to harbor, Implicit Definition seems like a plausible candidate for explaining our grasp of the logical constants, especially in the view of the difficulties encountered by its classical rival. But there would appear to be little that *prima facie* recommends either logical Non-Factualism or

⁹⁹ I have done so in Part 1, sections 2 and 3.

Conventionalism. So why combine these dubious doctrines with what looks to be a plausible theory of meaning? (Boghossian, 2006, p. 349)

Here is why, according to Boghossian, convention cannot establish truth: Let us start by assuming the correctness of a general trend in semantic theory that to understand the meaning of a sentence is a function of understanding the conditions which would make it true or to *know* the conditions which make it true. A truth conditional account of meaning simply holds that the meaning of terms and therefore the sentences which they constitute is fixed by the conditions which make the sentences either true or false (Boghossian, 2006, p. 336). What is it that makes the sentences of logic true according to Boghossian? Not necessarily conventions, is his answer:

So far I have argued that it is consistent with a sentence's serving as an implicit definer that that very sentence come to express a fully factual claim, capable of genuine truth or falsity. Perhaps, however, when implicit definition is at issue, the truth of the claim that is hereby fixed has to be thought of as conventionally determined? Does at least Conventionalism follow from Implicit Definition? (Boghossian, 2006, pp. 350, 351)

His answer:

Not at all. All that is involved in the thesis of Implicit Definition is the claim that the conventional assignment of truth to a sentence determines what proposition that sentence expresses (if any); such a view is entirely silent about what (if any) determines the truth of the claim that is thereby expressed – *a fortiori*, it is silent about whether our conventions determine it. (Boghossian, 2006, p. 351)

Boghossian, who accepts the existence of Frege-analyticities, suggests that the logical positivists broke from the truth conditional account of meaning. Here David Wiggins expresses a similar view about truth-based accounts of meaning in the hands of the logical positivists (or 'positivists').

However close it may have lain beneath the surface of some earlier speculations about language, the idea that to understand a sentence is to have grasped its truth-condition was first made explicit by Frege, for whom it was simply an unemphasized consequence of his general approach to the question of meaning. In the transition from logical positivism to modern analytic philosophy, the idea came near to being mislaid entirely. (Wiggins, 2006, p. 3)

As suggested, truth conditional accounts of meaning are thought to have been disregarded by the positivists because of their concerns about the truth conditions being located in "the world" or being related to "the facts" (Boghossian, 2006, pp. 335, 336). Truth conditions that are in 'the world' or are

related to 'the facts' are said to be language-independent. Sentences which have language independent truth conditions are made true by matters of fact which obtain in the extra-linguistic world. This means that such a sentence is either true or false depending on whether or not it is the case that such matters of fact actually obtain.

When the positivists hold that there are some sentences which are made true by their meanings this amounts to saying "...that something is made true by our meaning something by a sentence" (Boghossian, 2006, p. 336). Boghossian argues strongly against the positivists, by saying that no truth is settled by us merely saying that it is. Of course, the positivists do not think that 'truth', in its inflated correspondence-to-the-world sense, can be determined like this. They mean some other sort of 'truth', when they speak of truth being stipulated. They mean 'truth' as deflated or trivial (Ebbs, 2011). So if truth is deflated in this sense then, plainly, meaning also is not determined by a word-to-world connection. The positivists hold that sentences which are 'true by virtue of meaning' are language dependent. In other words, they are determined by linguistic conventions, which are yielded by language itself. Such sentences are not made true by a state of affairs independent – "antecedent" (Hale and Wright, 2003) to language (Boghossian, 2006, pp. 336, 337, 345).

Boghossian considers Quine's two reasons for laying the same accusation at the feet of the positivists: To start, he grants that Quine does, in places, say that the positivists' account of truth by virtue of meaning is an epistemic account (Boghossian, 2006, p. 335), but in the end Quine's attack on 'truth by linguistic meaning' (implying truth by convention) is one premised on the fact that there is no empirical or scientific distinction to be drawn between analytic and synthetic sentences. Therefore, Quine calls this distinction a 'dogma' – it is a "*metaphysical* article of faith". He quotes Quine:

...But for all its a priori reasonableness, a boundary between analytic and synthetic statements simply has not been drawn. That there is such a distinction to be drawn at all is an unempirical dogma of empiricists, a metaphysical article of faith. (Boghossian, 2006, p. 335)

Secondly, Quine famously says, there can be no manner in which the meaning of a sentence can be accounted for without circularity *if* the truth of such sentence is determined by linguistic conventions. In such cases truth is language dependent. Truth is language dependent when it is determined by intra-linguistic 'truth conditions'. When this is the case, according to Boghossian, it has the awkward consequence of a sentence simply being said to be true supposedly in some way being responsible for a state of affairs of obtaining.

Boghossian cannot, of course, help himself to Quine's view about the analytic-synthetic distinction being a "metaphysical article of faith" in the sense Quine would have meant it. And he doesn't seem to want to. If he did he would not be forwarding some sort of account of analytic truth himself. So we take it that he rejects this part of Quine's attack on the positivists. But, even though Boghossian does not completely follow Quine, he does follow him on his attack on the positivists' account of analytic truth as 'truth by virtue of meaning' if meaning is non-factual and conventional (Boghossian, 2006, p. 331).¹⁰⁰ As for Quine, any sentence which is held to be true must be assumed to be factual in some way (Boghossian, 2006, pp. 331, 335).¹⁰¹

Aside from the indefensibility of an account of truth which does not make demands on the "the world", Boghossian draws attention to the fact that conventionalism and non-factualism are at odds with each other. This inconsistency makes the standard view of implicit definition inherently unstable, according to him: conventionalism about the sentences expressing the principles of logic advocates that such sentences are *true*. Since there can be no truth without "facts" which determine that truth, conventionalism must be factualist if it is a thesis about truth. Conventionalism is a factualist position, wittingly or not – even though this does not necessarily make conventionalism realist.

Conventionalism is a factualist view: it presupposes that the sentences of logic have truth values. It differs from a realist view of logic in its conception of the source of those truth values, not on their existence. (Boghossian, 2006, p. 349)

Following Quine, Boghossian says: The positivists hold that truth by virtue of meaning is necessary truth or logical truth. But because they are concerned to avoid any "objective, language-independent" notions of necessity they claim that all necessary truths are determined by linguistic conventions (Boghossian, 2006, p. 336). This, however, has the odd and unexpected outcome of committing the positivists to an account of truth, where a sentence is made true by us saying what it means. But, doing so entails a

¹⁰⁰ It should be noted here that even though both Quine and Boghossian maintain that truth is a matter of 'fact', the facts for Quine would have to be empirical and for Boghossian, who proposes an account of analytic truth which makes it a priori, the 'facts' are non-empirical. I have explained this distinction in this by way of introduction to the thesis.

¹⁰¹ Even though Boghossian follows Quine to some degree when posed against the positivists, he does not draw the same conclusions as Quine does about meaning. It is not necessary for me to explain Boghossian's exact criticisms of Quine here. But summarily, the departure from Quine here is that Boghossian is not a skeptic about 'meanings' as Quine is. They are both realists about truth conditions of even logical principles. Boghossian, however, is willing to adopt a sort of Platonism about meaning facts and logical facts, whereas for Quine such truth conditions would have been extensional – always to the empirical world.

commitment to language dependent truth conditions, i.e. “linguistic necessities”. I repeat the above quote here:

Part of the answer derives from the fact that the positivists didn’t merely want a theory of a priori knowledge; they also wanted a reductive theory of necessity. The motivation wasn’t purely epistemological, but metaphysical as well. Guided by the fear that “objective, language-independent, necessary connections” would be metaphysically odd, they attempted to show that all necessities could be understood to consist in linguistic necessities, in the shadows cast by conventional decisions concerning the meanings of words. (Boghossian, 2006, p. 336)

So, in summary, Boghossian does not think the positivists’ account of analytic truth is indefensible because they endorse the analytic-synthetic distinction, as Quine does. But he thinks their mistake is related to the fact that truth, for them, can be determined by anything else than what is the case in the world. To hold this against the positivists is to misconstrue the importance of their distinction between logical and factual truth; no logical positivist would endorse a view of factual truth not being determined by facts (Ebbs, 2011).

Section 2: Boghossian’s epistemic account of analytic truth

How then does Boghossian manage to avoid the indefensible account of ‘truth by virtue of linguistic meaning’ whilst instead forwarding an epistemic account of analytic truth? To explicate ‘analytic’ as epistemological is to provide an answer to the question about how we *know* the truth of analytic sentences and then to make it part of the defining features of analytically true sentences.

We have already seen that Frege and Carnap take the justification a sentence gets to be one of the features which determines its analytic or synthetic status. In this sense it is fair to say their accounts of ‘analytic’ are epistemic. However, we have also seen that Boghossian thinks the positivists, with particular focus on Carnap (Boghossian, 2006, pp. 346 - 350), offer an indefensible view of analytically true sentences as conventional and non-factual, particularly those containing implicitly defined terms.

Turning then to the epistemological account of analyticity, we immediately confront a serious puzzle: How could any sentence be analytic in this sense? How could mere grasp of a sentence’s meaning justify someone holding it as true? (Boghossian, 2006, p. 337)

Both Carnap and Boghossian argue that knowledge of logical principles is a priori. But Boghossian evidently cannot think that Carnap's view of a priori knowledge is the same as his, since Carnap is a conventionalist and non-factualist about, respectively, the truth and meaning of logical principles and terms. This is how he differs from Carnap: he takes the view that analytic sentences are identified by their being knowable a priori as being in line with Frege's view of analyticity; that there are meaning facts which warrant our belief in analytic truth. However, he says that Frege's account is "incomplete" (Boghossian, 2006, p. 337). This is because even though Frege holds that analytic truth is achieved by substituting synonyms for synonyms, and also holds that such substitutions will be "objectively" determined, he does not make explicit the need for *facts* about synonymy (Boghossian, 2006, p. 337). Furthermore, in Frege's case, being justified or knowable a priori, is for the truth to be logically provable. It is for this reason that analytic sentences are "transformable into a logical truth by substituting synonyms for synonyms" (Boghossian, 2006, p. 337). But, argues Boghossian, not all sentences which are knowable are logically provable or are transformable into logical truths by replacing synonyms with synonyms. So, it must therefore be the case that we sometimes have a priori knowledge of the truth of sentences which are evidently not logical truths in the way Frege wants them to be.

Two classes come to mind. On the one hand, a priori statements that are not transformable into logical truths by the substitution of synonyms for synonyms; and, on the other hand, a priori statements that are trivially so transformable. (Boghossian, 2006, p. 338)

An account of a priori knowledge should be able to accommodate such sentences. In the cases where there is no possibility of logical substitution there must be facts which are known a priori, where the use of such facts is not just trivial. Since we have a priori *knowledge* of the truth of such statements, there must be some facts about meaning which obtain that are not simply a product of logical workings. Boghossian suggests that perhaps the mistaken view of truth yielded by adopting conventionalism and non-factualism, follows in the wake of Frege's incomplete account of analytic truth; and this is perhaps a result of Frege's *assumption* of the a priority of logic (Boghossian, 2006, p. 346) without giving an account of the facts which are *known* in this way. Boghossian argues that if there is a fact about a term, 'M', meaning 'cow' and another term, 'C', meaning 'cow' then there is fact about 'M' and 'C' meaning the same thing (Boghossian, 2006, p. 343).

In short, Boghossian position is this about why facts of the non-trivial kind are required for an explanation of our knowledge of logic: 'Frege-analyticities' are "facts" which support the claim that some terms are synonymous with each other. Without the *existence* of 'Frege-analyticities' we can make

no theoretical or principled sense of synonymy and therefore meaning. Boghossian's epistemic account then follows from this principled point of view about the existence of Frege-analyticities. Boghossian thinks that since there is an overwhelming theoretic requirement for the existence of 'Frege-analyticities' there is no good reason to doubt that we know logical principles and therefore logical truth a priori.

If the preceding considerations are correct, then there is no principled objection to the existence of Frege-analyticities, and hence no principled objection to the existence of statements that are knowable a priori if logical truth is. (Boghossian, 2006, p. 345)

Boghossian's defence of meaning realism is of course premised on whatever his defence of factualism about meaning is premised on. And his endorsement of the existence of Frege-analyticities can also only take hold once his realism, via his factualism, has received the appropriate justification. What does he offer us? He, correctly, says that a defence of premise 2 of the following proof is what will offer justification for his meaning realism:

- (1) If C is to mean what it does, then A has to be valid, for C means whatever logical object in fact makes A valid
- (2) C means what it does
- (3) A is valid

(Boghossian, 2006, p. 359)

(By 'A' Boghossian means any logical principle)

He then goes on to say that the truth of the proof, of course, depends on whether there are facts about 'C' meaning what it does. And to say that the meaning of 'C' is part of determining the stipulation of truth of A is not to give any reason for believing that C actually means what it does. The validity of 'A' follows from C's meaning and cannot therefore also be the reason for taking it to mean what we think it does. This is to offer a circular argument in support of C's meaning. The meaning of C cannot be embedded in a conditional (i.e. 'If C means what it does then A is valid') whilst no conditional can actually say whether C means what it does. So, concludes, Boghossian, following Harman (Boghossian, 2006, p. 359), there must be some further fact about the matter of the meaning of C.

Even if conventional assignments of truth or falsity determine meaning, it does not follow that a sentence is true by virtue of convention. It does not follow that the convention is even true. (Boghossian, 2006, p. 359)

We leave aside any immediate worries about the fact that Boghossian marshals support from Harman despite the fact that Harman places 'truth' as the antecedent in the conditional and Boghossian places 'meaning' as the antecedent.

Boghossian holds that we know that there are facts about the meanings of logical terms (e.g. the meaning of 'C' above) because we cannot "coherently doubt" the meanings of logical terms. To not be able to coherently doubt their meaning entails, for him, there must be facts about their meaning because to not coherently doubt their meaning means that we do not have the option of them meaning something other than what they are standardly taken to mean. This is exactly what meaning realism is. This is how Boghossian proceeds in justifying his realist commitments: He acknowledges that the a priori knowledge of the truth of logical principles does not guarantee that there are meaning facts (Boghossian, 2006, p. 360). But he says that it is not possible to "coherently doubt" (Boghossian, 2006, p. 360) that logical principles are meaningful. In other words, suggests Boghossian, there is no way for us to doubt the meaning of logical principles and still be warranted in believing in the elementary truths of logic – which we evidently do. It, therefore, follows says Boghossian that there are no options for logical principles to be invalidated or simply made redundant. They are "real" in this sense; they are objective. But could this not just be explained by some sort of pragmatism; that they are secured by the fact that they are an effective means to an end or that they are consistent with other already accepted linguistic frameworks? And in this sense they are 'real' but not real in the proper, inflated, mind-independent sense. Boghossian rejects this explanation. He says that they are not simply real in the reduced sense, as when yielded by some type of winning pragmatism. They are real in the sense that they are not just a matter of the most preferred even effective conventional choice. They are 'real' in the sense that they are the only possibility. For Boghossian it seems unlikely, no, even incoherent, to think that logic could be any other way than what it is.

Is this merely a pragmatic result, or something stronger? Tentative answer: Something stronger. To sustain the claim that the result is merely pragmatic, one would have to make sense of the claim that, although we cannot rationally doubt that our constants are meaningful, it is nevertheless possible that they aren't. (Boghossian, 2006, p. 362)

Boghossian's realism about the facts which warrants our knowledge of logic and our understanding of the analytically true sentences which comprise it places him in a starkly different position to the positivists' about analytic truth. He sees himself as opposed to the logical positivists despite not being in line with Quine. His account of truth and knowledge puts him diametrically opposed to the usual non-

factualist and conventionalist positions associated with a priori accounts of logic, associated with irrealist positions about logic.

Section 3: Requirements for semantic theories

Boghossian says of the positivists' account of analytic truth that it is "...the play with the metaphysical concept of analyticity..." (Boghossian, 2006, p. 336) is a function of their holding that "linguistic meaning generates truth". We have already seen that he rejects that truth can be determined in this way and holds, instead, that it is generated not by linguistic meaning but by "the world" (Boghossian, 2006, p. 336).

Part 1, sections 3 offers a detailed account of what it is Carnap thinks analytic truth is. In this section I look at whether Boghossian's claim that the positivists' notion of 'truth by linguistic meaning' is as indefensible as he thinks it is. I have already made mention of in what way Boghossian does and does not follow Quine against the positivists' notion of meaning: 1. Unlike Quine Boghossian defends the analyticity and a priority of logic, but, 2. Like Quine, but for different reasons, he thinks the positivists' truth by convention (as opposed to truth by "the world") is not plausible. He rejects the positivists' conventionalism about analytic truth.

The positivists with whom Boghossian is concerned are Carnap and Wittgenstein. Carnap and Wittgenstein are both professors of the implicit definition of logical terms. Boghossian's concern about the indefensibility of their account of implicit definition is informed by his view that the implicit definition of logical terms need not entail a commitment to conventionalism and non-factualism about meaning. Conventionalism about truth and non-factualism about meaning are both part of a, let us say, Carnapian-Wittgensteinian account of truth by virtue of meaning.

To show that conventionalism is correct I argue as follows:

1. The truth of logical principles is determined by convention when there are no *known* "facts" for determining it
2. There are no *known* "facts" for determining the truth of logical principles
3. Therefore, the truth of logical principles is determined by convention

Note: to hold that there are no *known* facts determining the truth of logical principles is not to hold that *there are no* such facts at all. The conventionalist position entails no ontological position either way. Like most irrealist¹⁰² positions it presupposes that truth is *epistemically constrained* (particularly in the case where truth determines meaning); this means that when speakers do not have cognitive access to the relevant truth conditions then they cannot be said to play a role in the attribution of meaning (Wright, 1987). In the case where realists defend the “objectivity” of meaning, they are arguing that there are objective “facts” about meaning. Objective facts here simply means the sorts of “facts” which Boghossian makes a case for (see sections 1 and 2, above); they are of “the world” and are not “language dependent”. As already explained, they are “antecedent” (Hale and Wright, 2003) to language construction and are what we measure the truth of our sentences against. But when we have no cognitive access to such objective facts about our sentences’ truth then it seems very difficult to tell how we are supposed to understand their meaning.

The purpose of a semantic theory is to explain how it is that terms and sentences obtain their meaning. In order to explain how terms and sentences obtain their meaning, a semantic theory also needs to include an account of how it is that we grasp or *know* those meanings (Dummett, 2006, p. 15). In other words, semantic theories will always require a supporting epistemology. This is so because there is no way to explain how we *know* what a term or sentence means without explaining how or what it is that speaker’s *grasp* when they understand what a term and sentence means. This much is true, in principle, even for endorsers of a truth-conditional account of meaning. For instance, is what speakers grasp an *obtaining fact* (i.e. as in factualism) or simply a *stipulation of meaning* (i.e. as in conventionalism)?

If it is our wish to be able to offer a semantic theory without making any prior assumptions about the existence or non-existence of meaning facts then we must offer the required explanations of how meaning is fixed without presupposing the existence or non-existence of any facts about meaning (Dummett, 2006, pp. 14, 15).¹⁰³

What then can be said about the meaning of logical terms and the analyticity of the sentences expressing logical principles without making ontological assumptions? Implicit definition is part of a

¹⁰² More about the relationship between irrealism and conventionalism in section 5 to come. In this section I shall look more closely at the semantic anti-realism espoused by Dummett and Wright. But ‘irrealism’ is the preferred term for now because it is used by Hale in his critique of Boghossian and others.

¹⁰³ It is, of course, not possible that any theory, without empirical support settles the question about the existence of anything. So, not even the prior holding of a very plausible semantic theory, postulating the need for the existence of meaning facts, will settle whether there are indeed such facts. The relationship between semantic theories and metaphysical theories can at best be something like theoretical consistency or inconsistency.

semantic theory because it offers an explanation of how certain terms obtain their meaning. Implicit definition holds that the truth of logical principles is arbitrarily stipulated. Boghossian concurs and also holds that “the facts” make a sentence true. It is also therefore such facts which bear on what a sentence means.

Until now I have used ‘fact’ as used by Boghossian. So, I have used ‘fact’ in sections 1 and 2 to indicate Boghossian’s use of “the facts” to be something like “the world”. Since Boghossian has made it clear that the truth conditions for any sentence cannot be determined by the sentence or language to which the sentence belongs (i.e. the thesis of conventionalism) “facts” is something outside of language; language-independent.

I am happy to continue using fact in this manner since it will make engagement with Boghossian easier, but I think the following should be pointed out: Dummett considers the question about what ‘facts’ are. He first offers metaphysical considerations of what a fact might be.¹⁰⁴ Metaphysical considerations form part of a *description* of ‘facts’ and might also imply something about their ontological status. Dummett decides that there is not much use in offering a metaphysical account of facts. There simply is no way of telling what a ‘fact’ is without *further specifications of the use* of the term, and we evidently use the term in different ways. He reminds us of the two ways in which we speak about ‘facts’; facts *obtain* or facts are *expressed*. Depending on how the term is used in a sentence this would indicate a very different sort of entity corresponding to ‘fact’. If ‘facts’ *obtain* then, if they exist, they are part of ‘the world’ in Boghossian’s sense. If they are *expressed* or stated then they are probably more in line with what Wittgenstein, in a constructivist mood, meant when he said “The world is probably the totality of facts, not of things” (Dummett, 2006, p. 3). Then a fact which is expressed is taken to be something like a true claim. A fact which obtains is part of “the world” and is presumably not dependent on us for its existence (unless otherwise, by some radical idealism or constructivism). Boghossian uses the term indicating mind-independent existence.

When ‘meaning is use’ (i.e. linguistic use) this indicates to Dummett (2006, pp. 14 - 28) that to first settle the metaphysical question and then the semantic one is misguided. Whether or not we gain any ground in deciding whether there are things such as facts and what they are will depend on what it is that we are looking for. If meaning facts obtain then we look to ‘the world’ for them, as in the case of

¹⁰⁴ His strategy of first considering the metaphysical question of what facts are is to illustrate how, in the end, we cannot settle this issue until we decide what we are going to take ‘fact’ to mean. So it is part of his defence for why semantic considerations precede metaphysical ones. This should be clearer as I continue in this section.

Boghossian; if they are stated or expressed then we obviously have no hope to find them in the same place as a fact which obtains. Semantic theories therefore precede metaphysical theories.

Our metaphysics is therefore determined by our semantic theory. In any semantic theory, linguistic items of some particular kind will be treated by the theory as its *basic units*. These will necessarily be types of sentences, whether of a natural language or of such a language regimented by having its sentences put into a standardized form suitable for logical manipulation [...] Sentences, for the purposes of any basic given semantic theory, will be whatever that theory selects as its basic units. (Dummett, 2006, p. 15)

The ‘non-factualism’ which Carnap adopts when being a proponent of implicit definition involves an explanation for how it is possible that we seem to understand the meanings of many sentences even though there are no *known* ‘facts’ to correspond to these. It is this problem for semantic theory, that there sometimes are terms and sentences which have meaning despite not having any known truth conditions in “the world” which leads Frege to distinguish between the sense and reference of a term.¹⁰⁵ Carnap also identifies this problem for semantics, hence delineating intensional from extensional contexts for determining meaning.¹⁰⁶ The difference, of course, between Frege’s sense-reference distinction and Carnap’s intension-extension distinction is that Frege holds that senses are objectively real, whereas Carnap holds that intensions are a function of conventional or constructed linguistic frameworks. In other words, they are language dependent and certainly not objective if ‘objective’ is what Frege says it is.

Both Frege and Carnap’s semantic distinctions result from the inadequacy of truth-conditional accounts of meaning *when* truth conditions run into the following two problems: 1. When truth is cashed out in terms of correspondence to the world despite our having no cognitive access to the relevant truth conditions. And, 2. When two terms mean distinct things despite having the same truth conditions (or referents in “the world”). So, when there are no *known* truth conditions to fix meaning, as in (1), or when it is obviously something other than the truth conditions which fix the meanings, as in (2), the standard view of the truth-conditional account of meaning fails. Contrary to what Boghossian argues, examples of such cases are the sentences which express logical principles; (1) there are no *known* objective or language-independent facts about logic, and (2) since, for instance, there are many different types of logic proposing different rules for entailment there are many different uses for ‘entail’. A semantic theory should be able to give an account of such sentences.

¹⁰⁵ See Part 1, sections 2.1, 2.2, 2.3 for a discussion of sense and reference.

¹⁰⁶ See Part 1, section 3.4 for a discussion of intension and extension

The problem for factualists about *meaning* is that they are required, like everyone else, to give an epistemology to support their factualism. In the case of the sentences expressing logical principles the factualist is therefore required to give evidence of the facts which are available to speakers (in this case the users of logic) to enable them to *know* the truth and meaning of the sentences expressing those principles. The implications of not being able to do so, is that factualists about meaning fail to give a working semantic theory for the relevant sentences.

To hold that a class of statements may be fully intelligible to us although resolving their truth-values may defeat our cognitive powers (even when idealized) may naturally be described as believing in the *objectivity of truth*. (Wright in Miller, 1998, p. 290)

The meaning of a statement is a real constraint, to which we are bound, as it were, by contract, and to which verdicts about its truth-value may objectively conform, quite independently of our considered opinion on the matter. (Wright in Miller, 1998, p. 290)

The objectivity of meaning is a manifest implication of the objectivity of truth. If statements of certain sorts can be undetectably true, then we have no alternative but to think of their meanings as, so to speak, reaching into regions where we cannot follow: there is already a verdict about the truth-value of such a statement which – if it is intelligible to suppose that our cognitive powers could be appropriately extended – our present understanding of its constituents and syntax would oblige us to give once we had investigated matters properly. (Wright in Miller, 1998, p. 291)

The positive programme of this thesis issues as a case for adopting conventionalism about the meaning of logical principles and all other types of analytic sentences, where standard truth-conditional accounts of meaning clearly have no role to play. To be a conventionalist about the meaning of logical principles is to say that the sentences which express them are true by virtue of linguistic conventions which we have adopted for pragmatic reasons and not for reasons which depend on the way “the world” is. Put another way; to be a conventionalist about any statement or sentence is to say that its truth and meaning is known without the need further empirical investigation.

But the question is how to elicit a respectable notion of *convention* [...] The obvious proposal is simply that the connection between the occurrence of a particular ostensibly explained type of state of affairs and a particular statement, *S*, is one of *conventional support* if and only if we would consider it acceptable in certain circumstances to assert *S* on the basis of knowledge of such a state of affairs; and we would not require, in order for someone to be credited with a full understanding both of *S* and what type of state of affairs had been ostensibly explained, that he knows what it would be empirically to investigate whether

occurrences of that type of state of affairs really did provide reason for believing S and to find that they did not. (Wright, 1987, p. 252)

Boghossian, however, would be the first to claim that he is not suggesting that factualism about logic demands empirical substantiation - he does, after all, endorse the a priori knowledge of the analytical truth of logical principles. So here perhaps it is not so easy to attribute a failed semantic account to him. He does, after all, say that we know the 'truth conditions' for the sentences of logic a priori. So, has his epistemology failed and has, therefore, his semantics failed? Yes, they have.

Boghossian's position amounts to the endorsement of non-trivial truths being knowable a priori. I think he would be happy to concede this point. He evidently does not think the sentences expressing logical principles, which he takes to be analytic, are not factual – he has argued for factualism about logic. This means that Boghossian offers us a view of "Analyticity" which renders it non-trivial. By Carnap's account¹⁰⁷ analytic truth, what it means to be an analytic sentence is, partially, informed by that sentence being non-factual. Consequently, by Carnap's account of what it means to be an analytic sentence, Boghossian's implicitly defined logical principles are not analytic.

Since Carnap's account of analytic truth is the one I endorse, I maintain that Boghossian has made logical principles synthetic. And, since he makes a case for logic being a priori, the upshot of his arguments is that logic, on the whole, is synthetic a priori. This is not a position Boghossian has argued for, but it is entailed by his arguments against conventionalism and non-factualism about logic.

I have not here offered an argument against the synthetic a priori (although I have already taken myself to have made some arguments for this in previous sections). So, my claim against Boghossian might only hold sway for those already convinced, like me, that non-trivial truths must be justified empirically or a posteriori. For now, Boghossian is certainly endorsing logical principles as analytic and as non-trivial. He is certainly also endorsing them as a priori. We leave it at that for now.

More to the point is that whether "the facts" are, in principle, knowable a priori or not; in actuality they seem to be beyond our cognitive 'reach' either a priori or empirically. This means that they cannot support a semantic theory about how it is that we actually do understand the sentences expressing logical principles.

¹⁰⁷ As shown in Part 1, sections 3.

But the classical truth-conditional conception of meaning breaks faith with this thought wherever it construes the kind of state of affairs that would render a particular statement true as something that can impinge only indirectly, or in part, on the faculties of one who understands the statement. (Hale, 2006, p. 276)

The solution for conventionalists is to be non-factualists about analytic sentences when providing a semantic theory *requires* them to be – not because they *know* there are no facts about meaning which might settle the truth of analytic sentences. To be a ‘non-factualist’ in such a case is therefore not to assume the non-existence of the truth conditions for, for example, the sentences of logic. To be a non-factualist about logical principles is to hold that somehow these sentences must have meaning *despite there being no knowledge* of the sorts of facts of the matter which usually act as truth conditions for sentences.

Here is the correct construal of conventionalism about logical principles: 1. Conventionalism is non-factualist because it denies that it is possible to give a semantic account of analytic sentences when truth conditions are supposed to fix meaning, but where they are not *known* and therefore cannot reasonably be thought to do so. So, let us call the ‘ontological’ attitude here, ontological agnosticism about meaning facts. There might yet be such meaning facts, and if there are, their existence is evidently irrelevant to the meaning of the actual sentences in question. Conventionalism is therefore, not a metaphysical position at all. It is at best a semantic and epistemological position.

2. Even though the purported inconsistency between conventionalism and non-factualism is not of primary concern to Boghossian, I argue that it is his view of truth (as only one sort of thing) which leads him to see this purported inconsistency, but has further, far more important, implications for his overall arguments. Thus I argue as follows: the truth which conventionalism attributes to analytic sentences and, specifically, logical sentences can therefore not be of the factual kind and Boghossian need not worry, therefore, that conventionalism and non-factualism seem to be at odds with each other. Given that conventionalism proposes that logical principles are true and that their truth is conventionally, and not factually, determined, conventionalists must mean something different when speaking about ‘truth’. They cannot mean what Boghossian means. And, indeed, they do not. They mean what Carnap means by logical truth; that it is trivial and a product of a constructed language system. There is therefore no chance of meaning determining the world. Boghossian does not take into account the distinctions

between different types of truth (Hale, 2006)¹⁰⁸ when he, 1. flags up the purported inconsistency with being a conventionalist and non-factualist and when he, 2. deems the positivists' account of truth by virtue of linguistic meaning indefensible because it supposedly suggests that in attributing the meaning of a sentence it is made true (about the world).

The distributive laws of logic tell us that $P \wedge (Q \vee R)$ is logically equivalent to $(P \wedge Q) \vee (P \wedge R)$ (Barwise and Etchemendy, 1993, p. 82). There are no known meaning facts of the type Boghossian hopes for which can justify logical principles in the way Boghossian claims they do. The only facts known here are 'facts' (for want of a better word) established by convention. The difference between these two types of facts ('facts' by convention and 'facts' by the world) is related to the difference between two types of truth; the distinction between 'logical' and 'factual' truth. When a truth has no factual content Carnap means that it says nothing informative about "the world". And by this he means the extra-linguistic and language independent world.

Therefore, using some of Tarski's results, I defined L-truth in semantics as an explication of the familiar concept of logical truth and related concepts such as L-implication and L-equivalence. In this way, the distinction between logical and factual truth, which had always been regarded in discussion in the Vienna Circle as important and fundamental, was at last vindicated....Our solution based on Wittgenstein's conception, consisted in asserting the thesis of empiricism only for factual truth. By contrast the truths in logic and mathematics are not in need of confirmation by observation, because they do not state anything about the world of facts. (Carnap, 1963, p. 64)

Had Boghossian's arguments proceeded in conjunction with making the required accession to the positivists' distinction between logical and factual truth, he would not have had the grounds for arguing that 'truth by virtue of linguistic meaning' is indefensible. Nor would he necessarily have seen the need to revert to factualism for analytic sentences in order to warrant our knowledge thereof. A priori knowledge is perfectly positioned, we have seen in the previous chapter, for explaining our knowledge of non-factual truths. Logical truth not only not require 'the facts' when they are part of 'the world', the claim is a stronger one: for a sentence to be logically true it *must* be true without assistance from facts which are part of the 'the world', whether there happen to be such facts or not.

¹⁰⁸ Hale distinguishes between 'minimal truth' and 'substantial truth'. Carnap would have used the terms 'factual truth' and 'logical/trivial truth'.

Section 4: What an epistemic account is *not*

Here I argue that, given a certain understanding of a priori knowledge, Boghossian's epistemic account of analytic truth¹⁰⁹ is not plausible. The understanding of a priori knowledge which is being assumed here has two parts: 1. A priori knowledge is the knowledge derived from deductive processes, as forwarded by Carnap. This is called inferential a priori knowledge and has been explicated in Part 1 and Part 2, section 3.2, and 2. A priori knowledge is non-inferential, where it is knowledge of stipulations (Hale and Wright, 2003) as argued for in Part, section 4. But such stipulations are then taken to be non-factual, "The stipulation of the relevant sentence as true ought not to require reference for any of its ingredient terms in any way that cannot be ensured *just* by their possessing a *sense*" (Hale and Wright, 2003).

The argument showing that his account is not a plausible epistemic account runs as follows:

1. A priori knowledge is knowledge of trivial truths
2. Sentences which express language independent facts are not trivial truths
3. Therefore, there can be no a priori knowledge of sentences which express language independent truths¹¹⁰

We have already seen that Boghossian's account of analytic truth in general as well as analytic truth of logical sentences entails meaning facts about analytic sentences. This is, summarily his line of argument: When it is the *stipulation* of truth which *settles* the truth, this entails that implicit definition determines the meanings. But, in addition to this, Boghossian holds that this is not enough to warrant our knowledge of logic – which we do have. For *knowledge* one needs *facts*. In the case of analytically true sentences facts are, of course, *meaning* facts. And these are, we have seen, not the sort of meaning facts determined by convention, but they are the sort of meaning facts which are of "the world". They are therefore objective in an important way; they are *not* part of the constructed language systems.

We have already seen that the justification Boghossian offers for meaning realism is that there seems no possibility to "coherently doubt" the present meanings of our logical terms. This inability to coherently

¹⁰⁹ See sections 1 and 2, above.

¹¹⁰ I argue in much detail for this conclusion in sections 5 and 6, where I follow Hale and Wright (2003) in their argument for non-inferential a priori knowledge of the conventions of logic.

doubt their meaning implies the existence of facts about their meaning. But does the notion of not being able to “coherently doubt” the truth and meaning of logical principles justify a claim to the factual truth and existence of meaning facts about logical principles? If logic is taken to be true in the Carnapian sense of analytic truth, that is being true relative to a linguistic framework, then there seems to be some sort of case to be made for not being able to “coherently doubt” the truth or meaning of logical principles. Ironically, it is Carnap in his ‘irrealist’ way, who gives a convincing explanation of why it is that we cannot seem to doubt our most strongly held beliefs, such as that in logic because we have adopted a linguistic framework – making all truths relative to it necessarily true. When sentences are true in this manner, their truth seems to have the force of a claim which is necessarily true; a truth which cannot be doubted, without failure to be rational. But this is not the sort of doubt which holds sway outside of the linguistic framework. To say that it does is to endorse a radical *de re* necessity (i.e. metaphysical necessity). It is only within that linguistic framework that the principles *must* be true in this way and that they *must* mean what we take them to mean.

But the linguistic framework itself can certainly be doubted, according to Carnap. I have shown his arguments extensively in Part 1, section 3.3.1. And it is conceivable that it might even be replaced by another or be used alongside another which holds inconsistent truths to other linguistic frameworks.¹¹¹

So, Carnap would say that Boghossian’s sense of not being able to “coherently doubt” the truths and meanings of logic is a function of his commitment to, or adoption of, or shared convention of the linguistic framework of logic. But “coherent doubt” serves no further epistemic function. It does not justify the framework. And this is what Boghossian wants to do. This is this sort of objectivity he hopes to secure for the sentences expressing logical principles. He is very clear about his endorsement of the “the world” making the principles of logic true. He is very clear about meaning facts for logical principles not just being pragmatically determined.

There are further reasons why the possibility of “coherently doubt” cannot serve to justify claims about the factual truth of logical principles. If Boghossian thinks meaning facts are not linguistic conventions but are of “the world” our knowledge of such facts is contingent. Our knowledge is contingent for two reasons: matters of fact (of the type which *obtain*) are not always expressed correctly by the sentences

¹¹¹ We think here of the distinction between classical and intuitionist logic, regarding the law of the excluded middle. Classical logic holds that all propositions are either true or false and intuitionist logic holds that some propositions are neither. The distinction is based on a different conception of truth. Classical logic is premised on truth being evidence transcendent and intuitionist logic on truth being evidentially constrained.

which speak about them, i.e. when we say 'false' things like "It is raining" when it is not. And even when they are expressed correctly our knowledge of these is not always guaranteed; our correct expression of the facts might be accidental. So if Carnap is right about the extent of necessity (i.e. that it is linguistic) necessary truth is only secured where necessity is a function of a particular constructed linguistic framework. In other words, language secures it, not the world. Correspondence to aspects of the world is never *necessarily* secured. So Boghossian's hope for "necessary connections" (Boghossian, 2006, p. 336) is just a hope. If it is some aspect of the language-independent and objective "the world" which makes true our logical principles, we should not assume to have knowledge of it since knowledge of the world is contingent. And "coherent doubt" is not an epistemic tool which settles the existence of realist meaning facts about logical terms which have necessary connection with our expressions of them. Whether or not we can "coherently doubt" this or that has not, for a very long time, been regarded an appropriate justification for what there is or what it is like.

Boghossian has in the end used an already deeply questioned conception of necessity, metaphysical necessity and implausibility of having knowledge of such necessities, to justify a claim about reality.

Section 5: The other "early friends of implicit definition"; conventionalism and non-factualism

The idea that the holding of certain sentences "true by convention" might somehow provide a foundation for a priori knowledge generally has been regarded with suspicion ever since Quine's "Truth by Convention", while "Two Dogmas of Empiricism" sowed the seed for a widespread scepticism, persisting to this day, not just about analyticity and the a priori but about the very notion of meaning which Carnap and the other early friends of implicit definition thought such definitions might determine. (Hale and Wright, 2003, p. 2)

Boghossian holds that the sentences which express logical principles are "*arbitrarily* stipulated" as true despite the fact that there might yet be facts about their truth and meaning.¹¹² In doing so the meanings of logical terms are determined (Boghossian, 2006, p. 349). This makes him an endorser of implicit definition for the meanings of logical terms (i.e. logical constants). I have already argued that to hold

¹¹² I have explained, in the introduction to Part 3 above, the what it is I understand Boghossian saying when he endorses the 'arbitrary' stipulation of the truth of logical principles despite arguing in favour of the existence of Frege-analyticities and facts about the truth of logical principles. I have, of course, argued against being able to consistently holding both these positions.

that logical terms are implicitly defined is part of a semantic theory about logical terms and the principles of which they form part. But can a semantic theory which incorporates implicit definition perhaps not also be factualist and non-conventionalist? My answer is, no.

If taking Carnap's account of analytic truth to be correct, there is no type of analytic sentence about which a realist semantic view could be correct. The reason is simply that *semantic* realism advocates the existence of "mind-independent" (Boghossian, 2006, p. 360) as well as language independent *meaning* facts or "meanings" (Boghossian, 2006, p. 360). Yet there is no analytically true sentence, according to Carnap, which has factual content. Sentences with factual content are contingently true and, therefore, synthetic. Furthermore, given that the a priori knowledge of a truth must entail that that truth is not factual truth, to hold that, for instance, logical principles are knowable a priori, is also to hold that they have no factual content. This then precludes realism (which incorporates both factualism and non-conventionalism) about, for instance, logical principles. This much has already been discussed.

I now argue further reasons why Boghossian's realism is inconsistent with his endorsement of implicit definition as well as his endorsement of logic as a priori. I do so without assuming Carnap is correct.

Boghossian argues that it is possible to endorse both the a priori knowledge of logic as well as the implicit definition of logical terms, without succumbing to the conventionalism and non-factualism usually associated with endorsing implicit definition. He does this by making a moderate claim; that implicit definition of logical terms does not entail a further commitment to non-factualism and conventionalism about meaning (Boghossian, 2006, p. 350). He does this, but does so explicitly stating his commitment to meaning realism (Boghossian, 2006, p. 331) whilst acknowledging that to defend meaning realism would require a very particular sort of justification; one which exceeds what arguments about the consistency or inconsistencies of "meaning constituting rules" or stipulations can secure (Boghossian, 2006, pp. 359 - 360).

In reading the following quote note that what Boghossian means by "meaningful" is that there are objective facts (in the case of logic there are "logical objects") which determine the correct meaning of a statement (Boghossian, 2006, pp. 358, 359). "Meaning-constituting rules" are simply stipulations of meaning like implicit definitions for logical terms:

How might it turn out that a set of constitutive rules for a term *t* fails to determine a meaning for it? I can think of two ways. First, the meaning-constituting role specified for *t* may impose inconsistent demands on it, thus making it impossible for there to be a meaning that makes true all of its meaning-constituting

sentences. A second worry might arise simply against the background of a robust propositionalism, without exploiting worries about inconsistency. For according to a robust propositionalism, meanings are radically mind-independent entities whose existence no amount of defining could ensure. Hence, there may well not be a meaning answering to all the demands placed upon a term by a set of stipulations [...] For both these reasons, then, we cannot immediately conclude from the fact that *t* is governed by a set of meaning-constituting rules, that *t* is meaningful. (Boghossian, 2006, pp. 359, 560)

The point being made by Boghossian is that whether or not all the stipulations for the use of a term are consistent with each other, or whether some are inconsistent with each other, does not prove that there either are or are not facts about the meaning of that term. He is, of course, completely right about this. Ontological claims need other sorts of justification – I think it should be empirical. So do Wright and Hale (I quote again):¹¹³

Let us call *arrogant* any stipulation of sentence, “#*f*” whose truth, such as the antecedent meaning of “#_” and the syntactic type of “*f*”, cannot be justifiably be affirmed without collateral (a posteriori) epistemic work. (Hale and Wright, 2003, p. 14)

So, for Hale and Wright, when the truth is settled by *stipulation*, as is the case in implicit definitions, the truth cannot also be dependent on having to do further epistemic work – which would have to be the case when there are meaning facts weighing in on the truth and meaning of the supposed stipulation. Boghossian acknowledges that a defence of realism about meaning constituting facts would require something else, “This full-blown justification can be had only by knowing the relevant facts about meaning” (Boghossian, 2006, p. 358).

Of course, where Boghossian makes this particular point he is mostly concerned with explicating the difference between “entitlement” and “justification” with the particular aim of telling his reader that no “subject” (quoting Tyler Burge) needs to *know* the relevant facts in order to be *entitled* to believe in the elementary truths of logic (Boghossian, 2006, pp. 357, 358). So, speakers are “entitled” to believe in (but are not “justified” in believing) the elementary truths of logic despite not having access to the facts which support them.

I here argue that the correct use of logical terms indicates full comprehension of their meaning. We have no other available option to explain the understanding we have of logic. The implication of holding

¹¹³ I discuss Hale and Wright’s position about epistemic arrogance in Part 2, section 4.

this position is that meaning does not ‘outrun’ use, but is fully explicated by correct use. And here ‘correct’ is simply following the rules (implicit or/and explicit rules).

The arguments to follow rely on this one point already made in Part 2, sections 3.2 and briefly reiterated in different terminology, directly above; Boghossian’s view is that whether there are conventions determining our use of terms or not, or whether conceptual role semantics is plausible or not, neither prove or disprove the existence of language-independent meaning facts. The question that remains to be answered is whether it is indeed possible for factualism to be *theoretically consistent* (which is Boghossian’s moderate claim) with holding that logic is a priori and that logical terms are defined implicitly.

Like Boghossian, following Tyler Burge (Boghossian, 2006, pp. 357, 358), I hold that it seems to be the case that “subjects” do not have comprehension of the purported ‘realist’ facts. Unlike Boghossian, following Tyler Burge, I argue that this means that if there are such meaning facts, they are evidently irrelevant to the comprehension of logical principles and our justification in using logic. My argument rests on the assumption that there are different sorts of truth; factual and logical. Accepting the non-factually true nature of logical principles is the only account we can give of our seeming full comprehension of their meaning. Boghossian’s arguments do not accommodate the distinction between these two ways in which sentences might be true.

Hale maintains that Boghossian is “committed to the intelligibility of a thick (that is, more than mere deflationary) notion of truth” (Hale, 2006, p. 378). By this Hale means that Boghossian is committed to a notion of truth where the truth conditions are always ‘facts’. And by ‘facts’ Hale means, with Boghossian, facts which obtain in the world. Hale, on the other hand, maintains that there are different sorts of truth. To make explicit this difference he distinguishes between ‘true’ and ‘correct’. ‘True’ he uses to signify substantial truth; the sort of truth based on language-independent facts. He also calls this ‘inflated truth’. And ‘correct’ is used to signify when a statement¹¹⁴ is only minimally true. What Hale means by ‘minimally true’ is that the statement is used consistently with a set of accepted linguistic rules with no additional requirements to correspond with ‘the world’.

Meanwhile, I shall reserve the term ‘true’ for whatever more substantial notion might be taken to in play, and employ ‘correct’ for the minimal sense. (Hale, 2006, p. 375)

¹¹⁴ I use ‘statement’ here instead of sentence, since this is Hale’s convention. I do not necessarily think the terms can be used interchangeably. And I am sure Hale does not either. He is evidently happy to speak about the truth of a ‘statement’ and the truth of a ‘sentence’, so I follow him in this regard.

To be clear; sentences which are ‘correct’ are still *true*, but only minimally so. Hale introduces the true-correct distinction to emphasise this.¹¹⁵ Going with Hale’s terminology, to adopt ‘non-factualism’ about a statement or type of statement means that one takes that statement not to be capable of “truth” but just of “correctness” (Hale, 2006, pp. 377, 378). Other statements might be true in the inflated sense that Boghossian wants the principles of logic to be. Hale also uses the distinction between a ‘thick’ and a ‘thin’ notion of truth (Hale, 2006, p. 378). According to a thick notion of truth, when a sentence is “true”, it is “substantially” true. Any sentence which is substantially true is “factual” (Hale, 2006, p. 378). Hale explains that Boghossian is under the impression that a non-factualist is committed, in every situation, to be a non-factualist. In other words, that sentences are sometimes true in a minimal sense and at other times true in a factual or inflated or substantial sense is not plausible, according to Boghossian. Boghossian cannot see how such a distinction can be drawn. So, since “irrealism” (Hale, 2006, pp. 375 - 377)¹¹⁶ about meaning maintains that there is such a thing as minimal truth (i.e. truth which is dependent on conditions which are not part of the world; ‘conditions’ such as conventions) the irrealist is committed, according to Boghossian, to holding that their distinction between types of truth is also only minimally true.

Boghossian believes that the non-factualist has not merely to make room for a thick (or as he says ‘robust’) notion of truth, but that he must *choose* between that and a merely deflationary one.

Here Hale quotes Boghossian directly:

It is an assumption of the present paper that truth is *univocal* ... We should not confuse the fact that it is now an open question whether truth is robust or deflationary for the claim that it can be both. There is no discernible plausibility in the suggestion that the concept of a correspondence between language and the world and the concept of a language-bound operator of semantic ascent might both be versions of the same idea. (Hale, 2006, p. 378)

What Boghossian means is that ‘truth’ cannot be explicated as both ‘correspondence to the world’ (factual) and ‘conventional agreement’ (non-factual). Hale goes on to say about Boghossian’s comment that “Clearly so crucial an assumption stands very much in need of supporting argument; surprisingly

¹¹⁵ I do not adopt Hale’s terminology elsewhere, for my own purposes, even though I agree with his conceptual distinction. Mostly I shall use Carnap’s terminology of factual-logical truth, which seems to me more accurate and more helpful. In the introduction and section 3, however, I give a detailed explanation of Wright’s notion of minimalism, which is the same as Hale’s. But, evidently, in principle I agree with Hale and Wright (and Carnap) about the fact that there are different ways in which sentences or propositions are true.

¹¹⁶ Hale uses “irrealism” to refer to a theoretical position endorsing conventionalism about truth and non-factualism about meaning.

Boghossian provides none...” (Hale, 2006, p. 378). Hale disagrees with Boghossian; he says that the distinctions between types of truth are established by what he calls “metalinguistic attributions” (Hale, 2006, p. 378), in this case, of truth, falsity, correctness and incorrectness. And he argues that it is plausible to hold that such attributions are never true or false in themselves, even if other types of sentences are.

And so long as both notions are available, why can't the non-factualist hold with perfect consistency, that metalinguistic attributions of truth, falsity, correctness and incorrectness are all alike, at most correct and never true? (Hale, 2006, p. 378)

This position is not dissimilar to the Carnapian idea that the rules for distinguishing between analytic and synthetic sentences are situated within a metalanguage but that the rules themselves are never factually true. In other words, there are no facts to substantiate these distinctions. We adopt metalanguages for pragmatically determined purposes.¹¹⁷ And so we also choose to adopt these metalinguistic attributions for particular reasons. While factualism, of the type that Boghossian would like to defend, might be necessary for certain types of sentences (in Hale's, like in Carnap's world, these would be empirical sentences) they are not necessary for the truth of, what Hale calls, metalinguistic distinctions, such as that between factual and logical truth. Nor, of course, are they required for the truth of logical principles themselves, according to Hale.

To see whether it is theoretically consistent to endorse implicit definition *and* to be a factualist about meaning let me look at exactly how implicit definition works when applied to a logical principle.

The following sentence is an example of a 'sentence of logic'. It is the rule of implication in SD (derivational system of sentential logic):

A: "If P then Q implies not P or Q."

What parts of sentence A is given meaning by the arbitrary stipulation of its truth? The arbitrary stipulation of truth does not yield the meanings of the two variables, P and Q, in the case of sentence A.

By saying that 'A' expresses a true principle, we determine the meanings of the logical terms, 'if', 'then', 'implies', 'not, and 'or'. Only the logical terms (or 'constants') of sentence 'A' can be implicitly defined.

¹¹⁷ In the case of adopting a metalanguage which distinguishes between analytic and synthetic sentences in the object language the reason, for Carnap, is to ensure that no sentences which have not been justified empirically are taken to be factually true. It was a metalinguistic distinction aimed at rejecting synthetic a priori propositions.

Here are the two steps: 1. It is by stipulating the sentence to be a true logical principle that we understand the meaning of 'If ...then' in the first part of the implication: We understand that when (i.e. 'if') the variable, in this case P, is the case, that it also (i.e. 'then') has to be the case that the second variable being referred to, Q, also has to be the case. Assuming the entailment to be a true expression of the relationship between P and Q results in us knowing the meanings of 'if' and 'then'. And, 2. We understand that Q has to be the case when P is the case, and that we understand that we cannot also have it that P *is not* the case and Q *is the* case. In this way the constants are meaningless if the sentence is not true, because this leads to inconsistent meanings of the logical terms. We, therefore, understand we cannot have both P not being the case *and* Q being the case, when it is the case that there is the following relationship between the two; P entailing Q. So given the truth of the principle, we understand what the constants mean.

This shows that assuming the truth of a sentence, that is accepting it is true because it is stipulated to be so, is a necessary condition for the implicit definition of its ingredient terms.

So a thinker who is party to a stipulative acceptance of a satisfactory implicit definition is in a position to recognise both that the sentences involved are true – precisely because stipulated to be so – and what they say. (Hale and Wright, 2003, p. 26).

But to assume the truth of any sentence without further appeal to empirical matters of facts seems to fly in the face of everything that one sensibly believes about truth; surely truth must have something to do with the world? Yet, the grounds for implicit definitions seem not to demand any such word- to-world connection. The way around this problem is to say that they are true in a different sort of what to what a word to world connection establishes. They are true relative to a language system or linguistic framework.¹¹⁸

Let us say that realists say there is consensus about meaning and then there is correct consensus.¹¹⁹ 'Correct consensus' needs facts which will determine whether the, mere, 'consensus' reached about some linguistic convention is correct. In other words, conventions need truth conditions for consensus to be correct. Correct consensus is consensus which has been reached because there is a correspondence with language to the world, or the facts, which makes our linguistic conventions true. In

¹¹⁸ I argue further for this point in Part 2, section 4, where I look at the non-inferential a priori knowledge of linguistic conventions.

¹¹⁹ Recall, I use 'realism' to refer to a rejection of conventionalism about truth *and* an adoption of factualism about meaning. There is therefore two aspects to 'realism' in the present context. I do not use 'realism' and 'factualism' interchangeably – even though they mostly seem to form part of the same view about truth and meaning.

fact, not seeking out a word-to-world connection for linguistic conventions is to allow a slide into “the incredible and self-defeating conclusion that, all language is meaningless” (Hale, 2006, p. 376).¹²⁰ McDowell claims that consensus alone, without it being measured against objective standards of correctness (i.e. factual truth), leads to meaning skepticism.

A linguistic convention is a principle or norm which has been adopted by a person or linguistic community about how to use, and therefore what the meaning is, of a specific term. The worry, for realists, about standard conventionalism (i.e. non-factualist conventionalism) is that there are no standards of truth or falsity against which our conventions and stipulations can be measured.

Boghossian and other theorists endorsing meaning realism, such as McDowell (Hale, 2006, p. 376), take standard conventionalism to imply meaning skepticism. They hold that objective facts about meaning are a way to determine whether the convention adopted is correct and are not simply a product of agreement or consensus among a linguistic community.

Before I continue, here is an important clarification: ‘Correctness’ is used in two (rather confusing) ways in what follows. Hale uses ‘correctness’ to draw a distinction with ‘truth’. He means by ‘correctness’ what I have already explained above; a sentence is used correctly when it meets minimal standards of ‘truth’, such as being grammatically correct and consistent with further linguistic conventions belonging to the same linguistic framework. So, in Hale’s case, ‘correctness’ is used in support of irrealism (Hale, 2006). Wright uses ‘correctness’ in a nearly opposite way to Hale, but he says very much what Hale says in the end (according to Hale). Wright uses ‘correct’ to draw a distinction between ‘consensus’ and ‘correctness’. He uses ‘correctness’ to mean something like objective correctness, in line with what realism wants for both truth and meaning. In other words, a sentence is ‘correct’, according to Wright’s realist, when it is *true* by correspondence to the facts and its meaning is determined by objective (i.e. language-independent) meaning facts, such as those postulated by Boghossian. This is contrasted, by Wright, with ‘consensus’ which means that truth is determined by stipulation and meaning is a function of such stipulations, as explained above. Truth here is minimal in an irrealist sense (Hale, 2006; Miller, 1998). I shall indicate where I use ‘correctness’ in what way, in what follows.

If we want to distinguish between when we simply have agreement which leads somehow to a stipulation of truth and when the truth is more than that, i.e. based on a true reflection of the world, then there must be something to show us that we have more than this. There must be some

¹²⁰ Here Hale quotes McDowell, quoting Kripke.

distinguishing criteria between consensus and truth. Or, using Hale's terminology, there must be some distinguishing feature between correctness (where 'correctness' is simply correctness of use according to accepted conventions) and truth. Wright, says Hale, argues that the only manner in which consensus can be told apart from correctness (where 'correctness' is here used in a realist sense indicating correct according to some further language-independent facts), when observing linguistic behaviour, is for the supposed objective standards of correctness/the objective meaning facts to be trackable/observable/ratifiable (Hale, 2006, p. 385). Without the observation or ratification of such meaning facts, we simply have nothing but consensus. No amount of, even convincing, theoretical appeal for the requirement of objective meaning facts will support a distinction between consensus and correctness (in Wright's realist sense). The distinction must be qualified in a manner suitable to the claim; it is a claim about facts which obtain objectively or independently to our construction of language and the justification should, therefore, be empirical.

So, the realist is not entitled to hold that such standards of correctness need not be cognitively available, or be "ratification-independent", or simply unknowable to speakers of a linguistic community (as do Boghossian and Burge). At least, not if they also claim that the facts which they postulate are relevant to meaning determination. Because unless it can be shown where such objective meaning facts are to be located and, furthermore, how they are cognitively available to speakers and linguistic communities there simply is nothing which can support a semantic theory relying on the existence of such facts. I have argued to this effect in the preceding section 3. And this means that there is no manner of telling apart where we have consensus or 'correctness' (in Wright's realist sense of the word):

...[Wright] is himself offering a *reductio* of the idea that correct use is a matter of conformity with a ratification-independent [or evidence transcendent] pattern. McDowell appears entirely to have overlooked the crucial point that the conclusion that there is no distinction between the consensus verdict and the correct verdict is drawn on [the aforementioned] hypothesis – hence Wright's conditional: "If correctness here means ratification-independent conformity with an antecedent [objective/realist] pattern, there is apparently absolutely nothing we can do to make active the contrast between the consensus description and the correctness description". (Hale, 2006, p. 385)

For a realist to hold that the analytical truth of sentences is consistent with the existence of facts about their meaning there must be some manner in which such meaning facts can support, or at least not undermine, the account given of analytic sentences. Yet, the account Boghossian gives of analytic sentences holds that their truth is *arbitrarily* stipulated and their terms are implicitly defined.

Neither of these, not the arbitrary stipulation of their truth nor the implicit definition of their terms, is empirically justified, nor does it need to be – not for Boghossian or any other professor of implicit definition. Boghossian uses the example of logical principles and argues for the analytic sentences of logic being knowable a priori. However, to endorse factualism about meaning and non-conventionalism about truth is to demand that truth is settled by a word-to-world correspondence and meaning by some sort of language-to-language-independent meaning fact correspondence. Neither of these requirements is up for non-empirical support. The workings of implicit definition, and what makes it such an appealing part of semantic theories about logical terms, for instance, and analytic sentences, more generally, is that it requires no empirical support; whereas realist postulations and realist semantics immediately do.

Implicit definitions are justified a priori, as are all conventional ascriptions of meaning.¹²¹ The justification for facts about meaning must be a posteriori or empirical. Consequently, to endorse both the implicit definition of logical terms as well as the factual determination of their meaning is to say two things: 1. that the meanings of logical terms are known both a priori and a posteriori and, 2. that their meanings are determined both arbitrarily as well as non-arbitrarily.

Regarding the first point, it is not required here that I argue for logical principles being known in either one or the other way. All that is necessary is to remember that Boghossian thinks logic is a priori. If facts of “the world” must be known empirically then his commitment to realist meaning facts will undermine the a priori status of logic. This he rejects, of course. Alternately, he could concede that logic is synthetic a priori (informative/factual but knowable a priori). But, alas, he thinks logical principles are analytic. This means that both consequences of adopting realism undermine his present epistemic account of logic.

Regarding the second point, let us imagine for a minute there are actual language-independent meaning facts of “the world” which determine the meaning of logical terms. If they do, then they do so without the knowledge of the speakers using these terms. Even Boghossian acknowledges that there seems to be no knowledge of such facts (Boghossian, 2006, p. 358). If these facts are to be relevant to determining or fixing meaning then there must be some causal account of meaning facts which will explain how they determine meaning in a manner which does not require speaker

¹²¹ I have offered a detailed argument in Part 2 in support of this claim. In fact I argue specifically for the non-inferential a priori knowledge of linguistic conventions, such as implicit definitions. But, for now, it should be enough to know that Boghossian, Hale and Wright with their respective claims, concur in this regard.

recognition. I am not going to entertain further imaginings of how this might work. It simply would be too speculative. But what can be said is that if there is something like this going on in “the world” for logic, then the meanings of logical terms are definitely not being determined arbitrarily, whilst ‘arbitrary’ is understood as anything like ‘the choice could have just as easily been otherwise’. In the case of logic to be arbitrarily stipulated as true would mean that another type of logic might have been adopted instead of the one that has in fact been (classical logical, in the case of Boghossian (2006)). If there are facts impinging on our choices, wittingly or not, so ‘making or choices for us’, then our choices and resulting stipulations are not arbitrary.

Alternately, it is, I suppose, possible for there to be facts about the meanings of logical terms, facts like ‘Frege-analyticities’, but that they are somehow ‘inert’ or play no role in the determination of meaning. In other words, in the case of sentences expressing logical principles, they stand in no causal relationship with those sentences. If this is the case then they are truth conditions and meaning facts which turn out to be irrelevant to establishing the truth or falsity of logical principles and determining the meaning of logical terms. If they are, let us say, ‘inert’, this would allow, even though they exist, for the *arbitrary* stipulation of the truth of logical principles and implicit definition of the meaning of logical terms. But would they then be the all-important entities warranting our a priori knowledge of the factual truths of logic? I doubt it.

I conclude here with a thought which perhaps asks us to reconsider briefly the usual construal of the sceptical concern resulting from adopting the thesis that ‘meaning is use’ (i.e. conventionalism): For a meaning realist such as Boghossian one of the reasons to hold that there are facts about meaning is because without such facts we are reduced to skepticism about meaning – there can be no meaning without meaning facts. So he posits facts about meaning to resist the usual worry with Wittgenstein’s thesis of ‘meaning is use’, which assumes conventionalism and non-factualism about meaning, and leads to a paradoxical sceptical position about meaning (Hale, 2006, pp. 369 – 374; Miller, 1998, pp. 154 – 162). But should it not be asked whether, in fact, matters are not reversed; is it not the insistence that meaning is based in fact, *combined* with the inability to indicate where and how such facts obtain,¹²² that leads to skepticism about meaning? The advantage of the conventionalist and non-factualist theses about meaning is that they do explain how it is that we know the meaning of so many words and sentences. In fact, much more so than any account of meaning which is dependent on an ontological position and seems, *prima facie*, not to be defensible.

¹²² Hale speaks about “investigation-independent fact” (Hale, 2006, p. 388)

But irrespective of whether or not factualism about meaning, as it stands now, leads to meaning skepticism, analytically true sentences, if they are implicitly defined and knowable a priori, cannot be accounted for by semantic realism.

Section 6: A counter objection: Theoretical consistency is a moderate claim

Boghossian holds, as we have already seen, that there is nothing inconsistent with endorsing implicit definition and that there might be facts about logic.

What I dispute is that it *follows* from the fact that a given sentence Q is being used to implicitly define one of its ingredient terms, that Q is not a factual sentence, not a sentence that “tells us anything that is the case.” These two claims seem to me entirely independent of each other. (Boghossian, 2006, p. 350)

He is, in this way, making a claim which is not plainly metaphysical. It is a moderate claim; a meta-theoretical claim only. A claim that it is, theoretically, *possible* to take ourselves to be stipulating truth, as when we implicitly define terms, despite the fact that there are, indeed, facts about both the truth and the meaning of logical principles and terms. It is for this reason that he disputes the need for “going all the way” to conventionalism and non-factualism, when endorsing implicit definition.

And this is, indeed, a moderate claim. And, if this is the case, then the accusation laid at his feet that his endorsement of implicit definition is inconsistent with his factualism about meaning is thus to miss the subtlety of his position. He is not claiming, he might say, that he *knows* there are such facts, but merely that there *might be* such facts, but that our meaning making activity, to our knowledge, *might seem to us* to work without such facts. After all, a successful argument for either a theoretical consistency or inconsistency between any two positions does not, alone, entail a commitment to the full ontological position associated with claims about existence.

But Boghossian does not escape the above arguments, on the abovementioned grounds, for the following two reasons:

1. To say that he has made no unjustified ontological claims must have as a consequence that he is willing to endorse some form of pragmatism about logic – since there has to be *some* explanation of how we choose to regard a logical principle as true and a logical term as meaningful, in the absence of evidence of “the facts”. Yet, he rejects pragmatism about logic.

2. He does, in the end (in his addenda) - provide an argument in support of the existence of facts about logical principles. So his initial careful avoidance of dubious ontological commitments is foregone by his efforts to defend claims about their existence.

The first point is countenanced by his claim that our account of logic cannot merely end in pragmatist commitments.

Is this merely a pragmatic result, or something stronger? Tentative answer: Something stronger. To sustain the claim that the result is merely pragmatic, one would have to make sense of the claim that, although we cannot rationally doubt that our constants are meaningful, it is nevertheless possible that they aren't. (Boghossian, 2006, p. 362)

The reason he gives is one of the usual reasons against pragmatism; that even pragmatist accounts of logic must assume the truth of logical principles whilst rendering their accounts. Nowhere, that Boghossian is aware of, has any pragmatist account been able to show how there are indeed options about the truth of logical principles and the meanings of logical terms (Boghossian, 2006, p. 362). I have already given an explanation of Boghossian's position in sections 1 and 2, above. The points *here* are that (a) not being able to *show* where such facts are remains a fulcrum to pragmatism about logic because a semantic theory needs to explain what it is that fixes meaning and (b) not being able to imagine other ways of doing logic is not, in any way, the *coup de grace* to the pragmatist position. There were times when it was impossible to coherently doubt that the earth is not the centre of universe.

The second point is countenanced by his claim that we cannot "coherently doubt" the meanings of our logical terms and therefore cannot doubt the truth of logical principles (Boghossian, 2006, p. 360). The second point is supported by his argument that to say that a logical principle is true based on the antecedent claim that a particular logical term is meaningful is to not do anything more than to establish this very conditional; *if* the logical principle is true *then* these logical constants have such-and such meanings. And establishing this conditional does not settle the truth of anything (Boghossian, 2006, pp. 358, 359). This, of course, is correct. But he then goes on to say that any claims about the truth of logic must, therefore, presuppose facts upon which logic is based.¹²³ This view is a non-sequitur; it does not follow that because a theoretically conditional relationship between meaning and truth/validity cannot settle actual meaning and actual truth, that there must *therefore* be facts about meaning. This point I have argued, in detail, over this chapter. The point at this stage is simply that Boghossian does do much

¹²³ I have already explained the details of this point of his in sections 1 and 2.

more than *merely* (i.e. moderately) argue for a theoretical consistency; a consistency between implicit definition and factualism and non-conventionalism. He argues for a theoretical *in*consistency between implicit definition and non-factualism and conventionalism. This is not a moderate claim. Nor does he establish the truth of this claim.

This leaves him in the precarious position of holding that he has made only a moderate claim, but then undermining this claim to moderation by arguing for the existence of meaning facts because it does, indeed, seem to be the case that no epistemic or semantic account of analytic truth, *as factual*, can get off the ground without it.

Conclusion

I have, in Part 1, rendered Kant, Frege and Carnap's notions of analytic truth and how these are related to their accounts of a priori knowledge. I have favoured the parts of their theories which have most served my purposes. What this established is that, when discussing 'analytic truth', one is in effect discussing meaning. At least, this has been the case with and since Kant, Frege and Carnap. The further point was that, despite all three those accounts of analytic truth placing it in the domain of meaning, they are still *significantly* departed. I hoped to tell the tale of analytic truth; its transformation from non-trivial to trivial. In Part 2 I argued that sometimes, despite our great resistance to this fact, knowledge *is* a priori; this seems to be the only plausible account of how we know some truths. But, I suggested, that there is succour to be found in the fact that, when all is said and done, no great matters are known in this way. In Part 3 I argued that an analytic account of the a priori can only be innocent of the synthetic a priori if it also posits that what is known is trivial.

I have aligned my arguments very closely with other current post positivist philosophers such as those working in the wake of Dummettian anti-realism. Hale and Wright have been my preferences and I believe are two of the most obvious ones. I have done this because it has been required of me to offer justifications for my position, not only in the form of my own arguments, thoughts and ideas (i.e. my "unique voice"), but also in terms of showing that my position is not unusual to an extent that might be detrimental to my thesis. This seems to have resulted in me, at every minute turn, finding and demonstrating a connection with other theorists' work.

I do not think, however, that this fact alone undermines the possibility of having made a contribution to the field. The area in which I have worked is characterised by debates and/or polemics where opposing sides distinguish themselves in the usual way; by adopting some overarching position, such as being either a realist or a conventionalist about some issue or another. Adopting an existing overarching position is never unique, unless it comes along with an extraordinary and new contribution, such as Dummett's introduction of semantic anti-realism to the field. But, more typically, the unique contributions made by arguments are recognised by particular trademarks of a theorist, such as Wright and Hale's relentless use of Dummett's 'transcendent truth conditions' of realist claims, or very subtle argumentative moves, such as Boghossian's claim about factualism about logic not being inconsistent with endorsing implicit definition of logical terms.

Very often though, in my view, some of the most interesting contributions made in study areas such as this one, is when a theorist draws novel connections between existing arguments or positions, or uses novel ways in which to argue for a position that others are already arguing for – and have been for a very long time; for instance, Hale and Wright’s use of Carnap conditionals as an example of a sentence which is not epistemically arrogant. There is nothing new about Carnap conditionals, or even their role in this debate. But, to my knowledge, the use that Hale and Wright make of them in their paper is new. So is their phrase, ‘epistemic arrogance’. But, in the end, their position is just another attempt to convince the reader of the correctness of some particular point in the antirealist or conventionalist programme. I believe what they have contributed is an argument with great explanatory and persuasive power.

However, completely missing from Hale and Wright’s, *Implicit definition and the A Priori*, is the phrase ‘synthetic a priori’. And it was on reading this essay that I looked for and, I believe, found the connections with the campaign set against synthetic a priori knowledge. The way in which Hale and Wright frame their arguments about epistemic arrogance seems very alike, or alike in very interesting ways, to arguments against synthetic a priori knowledge. The accusations are akin to the accusations levelled against old school rationalists. So, I think, when reading their work; the problem of speculative philosophy has not gone away. The synthetic a priori has not gone away. It has a new face – a mask. It is the removing of this mask that, for me, has been the most exciting part of doing this work. And perhaps in making this explicit, in the particular way done in this thesis, I have made one contribution.

But it is also in the particular structure of the thesis and my choice of readings (to help me advance my overall position) that I hope to have gained some traction. The scope of my reading has been quite narrow, I believe. I have consciously chosen to make my study an inch wide and a mile deep. This I have done, firstly, to give credit to the people I have read, who mostly do very complex and sophisticated work, but also so that the details of their arguments might provide me many platforms from which I can depart. I have used well established theories in semantics and epistemology to help me do this. For instance, the use of Hale and Wright’s ‘epistemic arrogance’ and Wright’s account of second order claims, when applied to the a posteriorist and inferentialist theories of knowledge in Part 2 is a connection I thought would help to further my overall thesis. This application, as set out in Part 2 is not one I found direct evidence for in my readings. They are connections I have defended by using their work in the way I have.

If I were asked to express, in the simplest way possible, what it is that I hope to have achieved in this project I would say: To emphasise how altogether trivial a trivial truth must be if knowledge thereof is a priori.¹²⁴ If I were asked what my cardinal strategies had been, I would say: 1. To give an account of a priori knowledge which precludes it from being knowledge of facts. 2. To give an account of trivial truth which precludes it from being factual. And then, if I were permitted to indulge in a moment of philosophical whim, that whim would be expressed like this: There are, to my mind, significant philosophical advantages in taking seriously the semantic and epistemic distinctions between analytic-synthetic and a priori-a posteriori. Following from this, since we cannot avoid the a priori (Part 2), the conceptual coupling of a priori knowledge to trivial (non-factual) truth seems to be one of the most effective ways in which to repudiate a priori knowledge of non-trivial truths.

For instance, it seems *prima facie* impossible to give an a posteriorist account of some significant parts of our linguistic knowledge, such as our knowledge of many types of definitions, among these being knowledge of the definitions for logical terms (Part 2). It also seems to be the case that apriorist accounts of truth do not always presuppose or posit the completely trivial nature of truths known in this manner (Part 3). Given peculiarities such as these it is important to explain *what* exactly it is that we take ourselves to know *when* knowledge seems to be a priori.

My preferred subject matter has been linguistic objects such as sentences, propositions, claims, statements or expressions – depending on whose work I am currently engaging with – and what fixes the *meanings* of these. This makes my approach a semantic one. In my introduction I have given reasons for why I have adopted a semantic approach. I shan't reiterate those reasons here. But what does seem worth emphasising again is that, when it comes to explaining what knowledge we actually do have of the meaning of a proposition, it does not help to speculate about how, at some future moment or under more ideal conditions, the truth of that proposition might be determined.¹²⁵ If the linguistic object *has* meaning then there must be an account given of how we seem to then actually know this meaning. And, if linguistic comprehension is a function of *knowing what fixes* meaning (e.g. conventional or other types of *truth* 'conditions'), then a theory of how we know meaning must explain the brass tacks thereof (Part 2). Semantically oriented theories emphasise, seemingly more than any other types of theory, the direct

¹²⁴ I would be happy to permit the use of 'non-empirical', if 'a priori' is found to be too much of a challenge selected to current lexicons.

¹²⁵ This claim, of course, only makes sense if truth is taken to be epistemically constrained. It has been a basic tenet of this thesis that truth is epistemically constrained. But aside from assuming this position, it has also been argued for, in places, alongside the particularly antirealist type of semantics here endorsed.

correlation between knowledge and truth. And, since meaning is 'immediate' an epistemological explanation thereof must account for this immediacy.

It should therefore not be a surprise that the focus on *linguistic* knowledge seems to provide excellent leverage to a project which assumes the moral that *what we take ourselves to know* ought to be directly in line with *what justification* is on offer. Unfortunately, if this is not a moral shared with the reader, the arguments I have proffered might seem to be a little forced or unnecessarily uptight. One type of incredulous reader could, for instance, interject: Might it not be the case that, for instance, despite not having direct empirical justification for some of our claims, such claims, when encountered within obviously effective justificatory systems (e.g. physical science), still have empirical significance? And this, they might say, is because the justification of a particular claim often draws from many different sources; some a posteriori (e.g. observation) and others a priori (e.g. deduction). In other words, they might say, the immediate absence of observational justification does not preclude the possibility of empirical truth and, consequently, empirical significance.

Yes, articulated like this, such a challenge might gain some traction. But it *only* gains traction if our concerns are with purely justificatory or epistemological issues. To the contrary, when our concerns are aimed at explaining our knowledge of *meaning*, let us say our concerns are *semantically* motivated, knowledge cannot be pending. Knowledge *of meaning* is as extant as meaning itself. Therefore, an account of knowledge of meaning always amounts to a theory of what is *actually* the case. If, therefore, it seems that the best explanation of how we understand the meaning of a particular proposition is by, for instance, its truth being conventionally stipulated then we should concede this point, no matter how counterintuitive it seems to us or what seeming unpalatable skepticism it entails.

The meaning of propositions which are held to be non-trivial (synthetic/factual), but are justified a priori, are consummate examples of semantically conflicted propositions. This is because the conditions which are thought to fix the meaning are such that they cannot be known a priori (Part 2). The solution is to bring into line what truth such propositions are capable of, given how they are justified. It is this 'bringing into line' which has been at the heart of this project.

Another way to avoid the problem of non-trivial truths being known a priori is, of course, to argue that all knowledge is a posteriori; it is then an epistemically harmless assumption that all our truths are factual and empirically significant – whether they turn out to be true or false (introduction part 2). But here, sadly, is a campaign beset with more naïve optimism than what, realistically, can be defended

(Part 2, section 3.3). So, if we are concerned not to endorse something which seems very much like synthetic a priori truths then the importance of directing our philosophical efforts towards *what* is known when we *evidently* know a priori, becomes particularly stark. But is everyone concerned to avoid the a priori justification of non-trivial truths? In other words, is everyone concerned to avoid the synthetic a priori? There are enough cases in point to show that this is not a universal concern, by any means. The lack of concern might manifest as overt defences of synthetic a priori knowledge or as accounts of truth or knowledge which, inadvertently, 'endorse' it. I have concerned myself with the inadvertent cases.

Nevertheless, it is acknowledged that the aforementioned moral might have found expression in any of the myriad different philosophical problems which have epistemological issues at heart. It so happens that the problem of the *meaning* of, purported, synthetic a priori truths seems to lead (happily for the likes of me), with more force, to the conclusion I want to draw about them than would arguments based only in epistemological concerns. Even though, to my mind, purely epistemological arguments would amass at the same conclusion as epistemic-*semantic* arguments do. It is, therefore, with Carnap that I maintain, throughout my project, that in many instances where we think we are faced with factual claims, such claims are nothing more than definitions (Parts 1, 2, 3).

I have argued that analytic truths are trivial truths. I have claimed, throughout my thesis, that to be a trivial truth is to have no factual content. To have no factual content is to be a truth which is not determined by any objective state of affairs; empirical or not. In Part 1 and Part 2 I have shown that a priori knowledge, whether inferential (Part 1,) or non-inferential (Part 2, section 4), is such that it can be only knowledge of truths which have no factual content. When a priori knowledge is inferential then it is knowledge of deduction or inference (Part 1 and part 2, section 3.2). But, on pain of holding that there are logical relationships between matters of fact, we are committed to holding that the propositions involved in the inferential processes of deduction are not factual. This means that the propositions which have been, let us say, the 'material' of the inferential process are taken to be analytic (Part 1). Inferential a priori knowledge can therefore only be knowledge of a relationship between analytic sentences understood within an intensional context, because intensional meaning is how one gets away from a proposition being about anything other than sense (thought) (Part 1). But, more interestingly and

perhaps more controversially, are the propositions¹²⁶ which are known a priori but *not* inferentially, such as the principles of some logical language. Such principles have not been inferred, because *they are* the rules for inference; they are therefore axiomatic. How does one know the meaning of such principles when one does not do so observationally, yet they are not the function of deduction? The suggestion was (Part 2 and Part 3) that we know such axiomatic propositions in the same way as one would know a stipulation; one knows a stipulation because one decides and ‘commands’, so to speak, what one and others mean by it. In this way one knows and shares the conventions of how to use its ingredient terms. But there are important epistemological and semantic caveats for claims to knowing stipulations; they all amount to the proposal that there is not much to know (Part 2) – even when the stipulation is a very, very useful one and *seems* to be factually true. Our challenge is to acquiesce that often we have definitions where we think we have more.

To Carnap’s credit, never before had we been told so clearly that there is a large, essential element in all knowledge that is easily mistaken for the ordinary factual claim but that is actually a tool for the constitution of representational apparatus; that these apparently factual claims are “definitions in disguise”; and what they define is a linguistic framework. (Coffa, 1991, p. 325)

To be clear, ‘trivial’ does not mean unimportant, superfluous or close to redundant. That the conception of ‘analytic’ I have here endorsed implies that analytic truths have an important role to play in the formation of knowledge in various fields of enquiry should, by now, be manifest. To describe truth as trivial is to give a technical and theoretically circumscribed description; it is not to relegate it to the puerile. This being said, the temptation to make analytic truth in any way factual or objective because, allegedly, only then can it be epistemically cogent is to blur the analytic-synthetic distinction. And then, if ‘factually-analytic’ truths of this sort are provided with an apriorist epistemology (Part 3), we very quickly find ourselves down the murky road of the synthetic a priori; a place where a priori knowledge of non-trivial truths is too cheaply obtained. Merely giving an apriorist epistemology does not get one all the way to a respectable account of analytic truth (Part 3).

Let us return briefly to Kripke (Part 2), since Kripke gives such useful explications of analytic truth (which he simply calls necessary truth) (Kripke, 1972, pp. 34 - 37). Kripke’s point of convergence in his arguments *against* the absolute pairings of analytic-a priori and synthetic-a posteriori is the distinction

¹²⁶ Some will dispute whether these are propositions. I do not want to here confound my train of thought with digressions, so keep with the terminology already introduced. I am, however, happy to concede that whether axiomatic stipulations are propositions is very much up for debate.

between 'can' and 'must' (Kripke, 1972, p. 34).¹²⁷ He argues that a priori should come apart from analytic (i.e. necessary), by showing examples of where necessary truths are sometimes known a posteriori. So, not all necessary truths *must* be known a priori, says Kripke. Here he gives us the famous case of the independent naming acts of Venus as both Hesperus and Phosphorous, then following from this the subsequent and a posteriori discovery of the co-extensional nature of these two names and then, following again, the *necessity* of these two names being co-extensional. This necessity he establishes by appeal to possible worlds semantics; there is no possible world where Hesperus and Phosphorous do not designate the same object, once we have thus established the names and their referent (Kripke, 1972, pp. 100 - 105). I gave three reasons, or brief arguments, in the introduction to Part 2 as to why I think Kripke is mistaken. I shan't repeat them here, except to say that it would be a gross inconsistency in my thesis to endorse both Carnap and Kripke's notions of necessity. But I here profit from the seminal difference between Carnapian and Kripkean necessity; it provides a particularly sharp tool for concluding how trivial, trivial must be.

So, how trivial is trivial? Altogether trivial. A Carnapian necessary truth is a truth which is either the result of a logical relationship between a constructed or invented set of linguistic stipulations (Part 1) or an axiom in a constructed or invented set of linguistic stipulations (Part 2). These linguistic stipulations might be the naming of objects, or they might simply be the definitions of other terms. However, when there is a further claim about two terms standing in some sort of identity relation to each other (e.g. they name the same object or share the same meaning) then, according to Carnap, for the identity relation to be a *necessity* it must work as follows:

Intensional definition 1: Hesperus *means* Venus

Intensional definition 2: Phosphorous *means* Venus

Intensionally equivalent definition 3 (by a priori inference): Hesperus *means* Phosphorous

For definition '3' to be a *necessity* the meaning relationship it expresses *must* be intensional. Extensional meaning is meaning which is determined by reference to the extra-linguistic world. That parts of the extra-linguistic world might stand in a necessary relationship with each other seems doubtful. But, even more so, that we might have *knowledge* of such extra-linguistic necessities, if there are any, seems impossible. Hume taught us this. It might, after all, turn out that Hesperus and Phosphorus are not co-

¹²⁷ I have already discussed 'can' and 'must' in my introduction to Part 2.

extensional; despite our current best a posteriori confirmation that they are we might yet be wrong. Hence, if the meaning of definition '3' is extensional (which it must be if known from observation), then its truth is contingent. The only necessity that can be established is one which is a relationship between intensional meaning. So, for definition '3' to be a necessity, we maintain that we have been given a pair of names which we take to have the same meaning.¹²⁸ This entails that definition '3' is true even if there is no Venus at all, or the morning star and evening star turn out to be two different objects. The term 'mean' does all the work here. Now, contrast the above with:

Extensional definition 1: Hesperus *is* Venus

Extensional definition 2: Phosphorous *is* Venus

Co-extensional definition 3 (by a posteriori confirmation): Hesperus *is* Phosphorous

Let us say that '3' here is true. The crucial difference between extensional '3' and intensional '3', lies in the fact that even if, in an epistemically ideal world (i.e. where infinite or complete empirical confirmation is cognitively available) it turns out that Hesperus and Phosphorous both *do* designate Venus, all that has been achieved is a complete factual truth. But, and here is the crucial point, a logical truth *is not* a complete factual truth. Logical truths are not the sorts of things which are found at the very end of the factual truth continuum; what is found, in principle of course, at the very end of the factual truth continuum are complete factual truths. But it is nevertheless the case that, even if we achieved a complete factual truth, it would be unrevisable because it *happens to be* true. Its truth is still *contingent* upon the world being a certain way.

Logical truths have a continuum of their own¹²⁹ because they are qualitatively different to factual truths. On the continuum of logical truths, the degree of logical necessity might be said to be related to the measure of constraint placed on a definiendum by the extent and complexity of the inferential network of definitions to which it belongs (Bohnert, 1963) (Part 1). The fact that the relationship between extensional definitions '1' and '2' above is determined by an a posteriori event (i.e. observing that the morning star and the evening star are the same object) is a happening which has no bearing on what

¹²⁸ I am fully aware of the fact this this is not what Kripke means by his example. But recall the point here is to show how Carnap's notion of necessity is *different* to Kripke's.

¹²⁹ Once again, not everyone would agree that there are degrees of logical truth. I have given an explanation in Part 1 sections 3 of Bohnert's explanation of inferential networks of recursive definitions and how this relates to ambiguity. My present point is more about qualitatively distinct classes or categories of truth, rather than the idea of continuums for both factual and logical truth.

makes a truth a necessity. Unlike contingent truths, which rely for their truth on the world being a certain way (e.g. the correlations between two names for the same referent), necessary truths are true because they, so to speak, stipulate their own truth conditions and do not say what the world is like.

Trivial truths are truths which are so *because* they have been given a different semantic and epistemic treatment. They have been measured against a different calibration and been positioned on their own continuum. Sometimes we are forced to place them on their own continuums and sometimes we have a choice. Either way, trivial truths are necessary because they are completely unhinged from the continuum which measures non-trivial truths.

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