

The Form and Function of Analyticity: Meaning Holism & Semantic Atomism

Valerie Racine

A Thesis

in

The Department

of

Philosophy

**Presented in Partial Fulfillment of the Requirements
for the Degree of Master of Arts (Philosophy) at
Concordia University
Montreal, Quebec, Canada**

June 2007

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Your file *Votre référence*
ISBN: 978-0-494-34717-1
Our file *Notre référence*
ISBN: 978-0-494-34717-1

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ABSTRACT

The Form and Function of Analyticity: Meaning Holism & Semantic Atomism

Valerie Racine

In Howard's historical account of Einstein's break with the Vienna Circle, he attributes the rift to the latter's retention of the analytic-synthetic distinction, while Einstein proposed a holist understanding of meaning. The assumed premise of the author's argument is that the A/S distinction must necessarily entail atomism. In a comment on Howard's historical portrayal, Oberdan questions the soundness of this premise by suggesting that the development of Carnap's epistemological project shows otherwise, i.e., the A/S distinction can be compatible with holism. However, Fodor and Lepore break down the implications of Quine's arguments to show that confirmation holism does not entail meaning holism. Thus, Carnap's later modification of the received view could be clarified by Fodor and Lepore's arguments in the following way; Carnap kept the A/S distinction, proposed confirmation holism and semantic atomism. This interpretation can be considered to provide an adequate, yet weak, defence of Oberdan's claim that the A/S distinction can be accommodated by a holist position. An alternative way to show how the A/S distinction can be compatible with holism is to re-interpret analyticity; to prioritize the function of analytical judgments over their logical form. This understanding suggests a Wittgensteinian interpretation of analyticity in which analytic statements are grammatical propositions within a given language-game that allow us to make meaningful and valid inferences. This standpoint may lead to an understanding of analyticity that can be compatible with meaning holism.

ACKNOWLEDGEMENTS

I would like to thank the Concordia University Philosophy Department, professors, fellow graduate students and staff, for sharing their knowledge and providing memorable conversations.

In particular, my advisor, Dr. Murray Clarke, proved that the direction of philosophical research has endless possibilities. This lesson reinforced my belief that philosophy remains a significant contribution to education and society. Dr. Vladimir Zeman and Dr. Justin Smith were also constant reminders of the value of acknowledging the history of philosophy. And, Dr. Sheila Mason, with whom I had the privilege to work with, demonstrated unparalleled integrity and commitment to her profession. I hope to emulate these virtues one day.

I would also like to thank Elizabeth Ruszkowski and Tanya Proulx for their endless commitment and effort in making the graduate student experience so much more enjoyable.

Finally, I would like to express my utmost gratitude to my parents for their unconditional love and support. To them I owe the opportunity of pursuing my education and any ability to succeed. I am also grateful to my brother, Nicolas, for always playing the devil's advocate. There is no doubt that our endless debates, from politics to hockey, allowed me to refine my critical competence. And, finally, I would like to thank Joël for his witty comebacks, his companionship and his love.

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CHAPTER ONE

Introduction of the Historical Context: the Vienna Circle & the A/S Distinction

1.1. Introduction

In his historical account of the interplay between logical positivism and the theory of relativity, *Einstein, Kant and the Origins of Logical Empiricism*, Don Howard argues that Einstein's break with the Vienna circle and some logical positivists, like Moritz Schlick and Hans Reichenbach, can be explained by appealing to Einstein's insistence on a holist account of meaning, while the other thinkers, because of their constant emphasis on a distinction between analytic and synthetic claims, must have adopted an atomist account of meaning of scientific language. In a comment on Howard's essay, Thomas Oberdan questions the soundness of Howard's argument that constitutes the basis for his historical portrayal. The first two premises of Howard's argument consist in positing, first, that any analytic-synthetic distinction entails atomism and, secondly, that holism must be explicitly incompatible with atomism. He therefore concludes that holism is inconsistent with the analytic-synthetic distinction. Oberdan rejects the first premise of the argument by appealing to the development of Rudolph Carnap's epistemological project. Oberdan claims that Carnap, in his later work, never explicitly rejected a holist account of meaning, even though he maintained a distinction between analytic and synthetic propositions.

1.2. The Vienna Circle: A Scientific Conception of the World

In the fall of 1929, Carnap and his colleagues articulated their attitude regarding the role of philosophy in the Vienna Circle manifesto. Philosophy was no longer to be

conceived as an independent science or discipline. Rather, the pamphlet's proclamation was that the goal of philosophy was to clarify the concepts, judgments, language and methodology of the sciences. In his *Intellectual Autobiography*, Carnap maintained this principle of the unity of science: "This principle says that the different branches of empirical science are separated only for the practical reason of division of labour, but are fundamentally merely parts of one comprehensive unified science" (Neurath & Cohen 44). More specifically, the logical empiricists of the Vienna Circle were attempting to synthesize the empiricism of Hume, Mill and Mach with the logic of Wittgenstein, Russell and Whitehead. This simplified description of their project meant, in short, that only two kinds of statements were meaningful: There are the analytical sentences which are tautologies by definition and cannot give any knowledge of the external world. These include mathematical and logical utterances. And secondly, there are the synthetic sentences which are contained in the empirical sciences. These statements would include scientific judgments. So, it follows that this specific articulation of logical empiricism rejected the possibility of Kant's a priori synthetic judgments.

This scientific conception of the world proposed a *unified* science. It was to be a collective effort brought about by all scientists in their particular fields of empirical science. The aim of philosophy was to make this collective effort possible and productive by clarifying the riddles found in the historical language of metaphysics. As the positivists noted: "In science there are no 'depths'; there is surface everywhere: all experience forms a complex network, which cannot always be surveyed and can often be grasped only in parts. Everything is accessible to man; and man is the measure of all things" (Neurath & Cohen 306). By clarifying and unmasking the pseudo-problems that

haunted philosophical discourse, the logical empiricists hoped to put an emphasis on what can be known inter-subjectively. The authors of the pamphlet vehemently rejected the role of metaphysical language within philosophy and regarded it as meaningless. “If a metaphysician or theologian wants to retain the usual medium of language, then he must himself realize and bring out clearly that he is giving not description but expression, not theory or communication of knowledge, but poetry or myth” (Neurath & Cohen 307). Their rejection of metaphysics was based on what they considered to be two logical mistakes within traditional metaphysics: The first misconception of the metaphysician was a linguistic one. There was “too narrow a tie to the form of *traditional languages* and a confusion about the logical achievements of thought” (Neurath & Cohen 307). For example, a noun, which is part of speech, may signify substantive things, e.g., an apple, qualities, e.g., hardness, relations, e.g., friendship or processes, e.g., sleep. Functional concepts are then mistakenly considered in the same way as thing-like concepts. The second mistake within metaphysics was that it relied on some kind of intuitive inferential process to account for new ideas and concepts, i.e., the synthetic a priori. Logical investigation proved wrong “the notion that thinking can either lead to knowledge out of its own resources without using any empirical material, or at least at new content by an inference from given states of affair” (Neurath & Cohen 308). Carnap used this line of argument in his rejection of “metaphysical” accounts of reality. To repeat, this attack on metaphysics shows that the scientific world conception would accept only two kinds of statements; empirical statements (scientific propositions) and analytic statements (logical and mathematical truths). The dichotomy between these two types of knowledge claims plays a fundamental role in Carnap’s epistemological project.

Based on the theses presented in the Vienna Circle manifesto, it followed that the logical positivists also rejected realism and idealism as valid conceptions of the world. The scientific world-conception rests on two features: “*First* it is *empiricist and positivist*: there is knowledge only from experience, which rests on what is immediately given. This sets the limits for the content of legitimate science. *Second*, the scientific world-conception is marked by application of a certain method, namely *logical analysis*. The aim of scientific effort is to reach the goal, unified science, by appealing to logical analysis and to the empirical material” (Neurath & Cohen 309). So, science investigates the *structure* of the world (empirical reality), not the *essence* of this reality. There simply are no essences beyond observation. Subjective experience may give some kind of qualitative description of, or information about, something, but it cannot contribute to the development of science.

The methodology of empirical science for physics was, for the Vienna Circle, the main point of interest, largely because of the advancements in the field and because the epistemological analysis of its main concepts was already underway with Mach, Poincaré and Duhem. For example, the concept of ‘causality’ was no longer understood as a necessary connection. Instead, it was taken to be a relation among conditions, i.e., a ‘functional coordination’. Likewise, the concept of probability was reduced to relative frequency. With the influence of Duhem on the Circle, physics also came to be seen as a system of hypotheses and axioms: “A system of axioms, cut loose from all empirical application, can at first be regarded as a system of implicit definitions; that is to say, the concepts that appear in the axioms are fixed, or as it were defined, not from their content but only from their mutual relations through the axioms. Such a system of axioms attains

a meaning for reality only by the addition of further definitions, namely the ‘coordinating definition’, which state what objects of reality are to be regarded as members of the system of axioms” (Neurath & Cohen 312). The system allows for new experience to be accounted for by either changing the axioms or the ‘coordinating definitions’. Thus, for the Vienna Circle, empirical knowledge, or ‘knowledge of the world’, is possible because empirical reality can be ordered or structured in a meaningful way, through properly constructed physical theories.

In addition to their attention to physics, the group emphasized concept formation (i.e. the clarification and analysis of foundational concepts) and the application of a logical, coherent system on empirical data; “an endeavour toward precise formulation, application of an exact logical language and symbolism, and accurate differentiation between the theoretical content of a thesis and its mere attendant notions” (Neurath & Cohen 316). Again, the logical empiricists proclaimed that there was no such privileged status that requires philosophers to contemplate questions and riddles which go beyond our experience of empirical reality. As such, their pamphlet was rightly interpreted as a dismissal of the metaphysical project. The philosophical project, they believed, should be that of foundational investigations.

1.3. A Brief Outline of Carnap’s Project

In line with the Vienna Circle’s project, delineated in the manifesto, Carnap attempted to reconstruct concepts in philosophy and empirical sciences to form a systematic structure (or genealogy) of concepts from which one can deduce knowledge of empirical reality. In undertaking this project, he believed scientists could reach a greater

level of inter-subjective agreement. In *Pseudoproblems in Philosophy*, Carnap introduced the notion that factual content should be used as a criterion in establishing the meaningfulness of a statement. A statement has meaning, for Carnap, if it expresses a conceivable state of affairs. It is true if it actually exists. If a statement contains a new concept, then its meaning must be somehow indicated. "Indication" is necessary and sufficient, not the "meaning" of the concept. Expressions or statements that do not have factual content are always meaningless. Empirical sciences cannot include such pseudo-statements. Carnap argues that theology and philosophy have been detrimentally thwarted by such expressions. As a result, Carnap proposed the following view of physics. He wrote, "By 'physics' we wish to mean, not the system of currently known physical laws, but rather the science characterized by a mode of concept formation which traces every concept back to state-coordinates, that is, to systematic assignments of numbers to space-time points" (Carnap, *Psychology in Physical Language* 197). Physics, understood in this way, should serve a foundational purpose on which the rest of the empirical science can build. This foundation was what Carnap tried to provide in 1928 in the *Aufbau* and then in 1932 in *The Unity of Science*.

To place Carnap's project in *The Unity of Science* within a historical context, it is valuable to explore Wittgenstein's notion of sense. In Wittgenstein's *Tractatus Logico-Philosophicus*, the sense of states of affairs (or facts) is reducible to the reference of atomic statements to objects of experience. This method entails a sort of one-to-one correspondence between objects and words (Carnap, *The Unity of Science* 15). That is, any statement is reducible to logical conjunctions and disjunctions, and to experience.

Therefore, “strictly speaking, only atomic sentences and truth functions of atomic sentences have sense” (Carnap, *The Unity of Science* 16).

Wittgenstein’s account contains the three following aspects; the recognition of the importance of logical structure, the exclusion of that logical structure from being itself the subject-matter of statements, and, perhaps most importantly, verifiability (Carnap, *The Unity of Science* 16). In an introduction to Wittgenstein’s *Tractatus*, Bertrand Russell writes;

The essential business of language is to assert or deny facts. Given the syntax of a language, the meaning of a sentence is determinate as soon as the meaning of the component words is known. In order that a certain sentence should assert a certain fact there must, however the language may be constructed, be something in common between the structure of the sentence and the structure of the fact. This is perhaps the most fundamental thesis of Mr. Wittgenstein’s theory. That which has to be in common between the sentence and the fact cannot, so he contends, be itself in turn *said* in language. It can, in his phraseology, only be *shown*, not said, for whatever we may say will still need to have the same structure (Russell x-xi).

A possible, and quite radical, consequence of Wittgenstein’s proposal is that while actual atomic statements that can be correctly verified do have immediate reference, they cannot really express anything and, hence, cannot really contribute to scientific knowledge (Carnap, *The Unity of Science* 17-18). It is precisely because of this consequence that Carnap, and the Circle, added a pragmatic twist to Wittgenstein’s verifiability theory and so assured the justification and fruitfulness of scientific ventures. Consequently, Carnap introduced the notion of the *protocol language* and differentiated between formal and material modes of speech, in order that a slightly modified verifiability theory could contribute to the foundation of knowledge. Black elucidates Carnap’s attempt to manipulate a sort of Wittgensteinian logical structure in the following passage: “The absence of the doctrine of atomic facts permits the retention of a wider criterion of

verifiability in sense experience while allowing a pragmatical sense to general statements, natural laws and hypotheses” (Carnap, *The Unity of Science* 20). This idea, however, seems to leave unclear the very notion of the truth of statements. Is the truth of a statement still based on some kind of *correspondence* to our experiences of empirical reality or is truth based on the *coherence* between logical structures and our experiences? The difficulty arises in the latter case because if the truth of a statement is somehow conditional, the positivists would need to offer an account of the truth of propositions that is not entirely dependent on human convention or prejudice (Carnap, *The Unity of Science* 20). Carnap’s project seems to favour the coherence notion of truth, even though during most of his years in Vienna, he privileged an atomistic view of meaning; a view that would entail, or, at least, suggest, correspondence.

Again, Carnap repeated that the logical positivist’s position seeks a reduction of every meaningful statement to empirical observations, and hence, does away with the possibility of the synthetic a priori. But, at the same time, he was careful not to defend any realist or empiricist interpretation of the world. In fact, he rejected such language as traditionally metaphysical and futile. In *The Unity of Science*, Carnap instead aimed solely to demonstrate the logical relation between *physics* and *science*, i.e. that “all statements in Science can be translated into physical language” (Carnap, *The Unity of Science* 28).

Scientific research, according to Carnap, is concerned with either the empirical *content* of theorems or the *form* of scientific statements. The former research is conducted through experiments, observation, and classification. It incorporates a process of organizing empirical observations. These include statements in all the empirical sciences.

The form of scientific statement, on the other hand, consists of mathematics and formal logic. The goal here is to discover logical connections between concepts or symbols. These include statements such as tautologies, which are true by virtue of their form. For instance, Carnap provided the unoriginal example; *A is black or not black*. These tautologies might seem useless for building up any kind of body of (scientific) knowledge, i.e., establishing true claims about the world. But, Carnap insisted these claims have “considerable importance for science by virtue of their use in transforming statements having content” (Carnap, *The Unity of Science* 34). That is, they provide the structure for scientific theories. In this sense, Carnap defended a definitionist position, i.e., the classical theory of concepts, in which primitive concepts have necessary and sufficient conditions and complex concepts can be built up out of these primitive concepts. In turn, meaningful sentences contain complex concepts and syntactic structure.

Similarly, in the *Aufbau* (or *The Logical Structure of the World*), Carnap offered an account of theory-construction that would unify science by considering the two possible types of statements that are permissible in any scientific system. There are the formal or logical investigations and the substantive or empirical investigations. Together these form a genealogy of concepts. In other words, they provide a derivational system for science; one in which all statements are verifiable by reduction to empirical fact.

Carnap explicates his conceptual structure in the following passage:

A constructional system is a system which (in principle) comprises all concepts (or objects) of science, not indeed as a classificatory, but as a derivational, system (genealogy): each concept is constructed from those that precede it in the system. A concept is said to be reducible to others, if all statements about it can be transformed into statements about these other concepts; the general rule for this transformation of statements for a given concept is called the *construction* of the concept (Carnap, *The Logical Structure of the World* 15).

A consequence of such a constructional system and the possibility of its transformation (or translation) is the unity of science.

1.4. Reichenbach and Schlick

Like Carnap, Reichenbach and Schlick also employed the analytic-synthetic distinction in explaining the foundation of the empirical sciences. Reichenbach, although he was not part of the official Vienna Circle discussions, did contribute to the logical positivist project by rejecting Kant's synthetic a priori and adjusting Machian positivism with the idea that scientific theories are connecting by "principles of coordination".¹ Reichenbach's "principles of coordination" did seem to have the status of conventional elements within a scientific theory. That is, he did not interpret Kant's notion of a priori judgments as apodictic or universal in character. Nonetheless, they remained necessary in some way. Howard explains, "He insists that constitutive principles are still required in order to ground the possibility of experience and knowledge, even if they are not determined once and forever by the nature of the human intellect" (Howard 57). It was in trying to reconcile Kant's idea to the novel theories concerning relativity, and its consequences on the traditional conception of space, that Reichenbach dismissed the possibility of universal synthetic a priori judgments. Reichenbach appealed to the notions of causal laws and predictability in physical theories to explain his idea that theoretical

¹ It is noteworthy to mention here that Reichenbach, a student of Einstein, still felt indebted to Kant for his philosophical contribution. In an introduction to *The Theory of Relativity and A Priori Knowledge*, Maria Reichenbach explains, "According to Reichenbach, Kant succeeded in pressing the concept of knowledge of his age into a formula, a concept of knowledge that was created by science in its tremendous efforts to solve its own problems. Kant's system did not take the path from speculation to the facts, but rather the path from the facts to conceptualization. His starting point was not a fictitious concept of knowledge, but the concept of knowledge of his time" (Reichenbach, *The Theory of Relativity and A Priori Knowledge*, xviii). Consequently, Reichenbach thought that Kant was always better understood by scientists than philosophers (Reichenbach, *The Theory of Relativity and A Priori Knowledge*, xviii).

constructions must adequately and consistently explain reality. He writes, “With this formulation the principle of causality is stripped of its disguise as a principle *a priori*, in which it has been presented within many a philosophical system. If causality is stated as a limit of probability implications, it is clear that this principle can be maintained only in the sense of an empirical hypothesis” (Reichenbach, *Philosophic Foundations of Quantum Mechanics* 3). Here, Reichenbach’s notion of causality is neither *a priori* nor *a posteriori* in the traditional Kantian sense. Rather, causal laws are discovered empirically and justified by making them a necessary component of physical theories that preclude any further justification. In this way, Reichenbach took certain principles to be *a priori* in the sense that they are “constitutive of the concept of the object,” and not in the sense that they must remain fixed for all time. Michael Friedman explains that “unless [these principles] are antecedently in place our mathematical theories have no empirical content – no coordination with physical reality – at all” (Friedman 104). Physical reality, then, is defined and constituted, by such principles and offer a measure of objectivity to our descriptions of physical reality (Friedman 104).

Schlick, who was a leading participant in the Vienna Circle discussions, proposed a similar epistemological foundation for physical theories. He likewise emphasized the distinction between analytic definitions and synthetic statements about empirical reality in interpreting the significance of the new physical theories on relativity. At first, Schlick took the distinction to be a merely relative one. In 1918, he wrote, “Genuine judgments can be distinguished from definitions only in a practical or psychological sense, not in a purely logical or epistemological sense...In these ‘purely conceptual’ scientific theories, the distinction between definitions and judgments is thus a relative one” (Howard 67).

However, with the development of logical positivism, Schlick modified his account. He abandoned the idea that the distinction was merely relative because that would have entailed that any scientific proposition could be determined simply by convention. That would have made the positivist project of reducing every empirical proposition to specific empirical content a much more difficult task. In 1925, then, Schlick wrote:

The system of definitions and cognitive judgments, which constitutes any real science, is brought into congruence at individual points with the system of reality, and is so constructed that congruence then follows automatically at all remaining points...If the whole edifice is correctly built, then a set of real facts corresponds not only to each of the starting points – the fundamental judgments – but also to each member of the system generated deductively. Every individual judgment in the entire structure is uniquely coordinated to a set of real facts (Howard 69).

Schlick's updated account of the analytic-synthetic distinction leaves no room for the possibility of any Kantian synthetic a priori knowledge claims and entails an atomist conception of meaning in scientific language. Accordingly, Howard concludes that, "If all of the judgments or propositions constituting a scientific theory are either analytic definitions or synthetic empirical propositions, and if, our having fixed by convention a sufficient number of definitions, the truth or falsity of the remaining empirical propositions is determined unambiguously by experience of the empirical facts coordinated, one by one, with the empirical propositions, then there is simply no room for the Kantian synthetic a priori" (Howard 70).

So, in the 1920s, it would seem that Carnap, Reichenbach and Schlick were all on the same page concerning the proper epistemological foundation in grounding the meaningfulness of scientific theories. They stressed the distinction between analytic definitions and synthetic propositions and rejected the idea of the synthetic a priori. In doing so, they believed they provided an adequate rebuttal to some neo-Kantians and

showed how their epistemological model could in fact work with Einstein's new ideas of space and time. As such, their model of scientific theories undoubtedly entailed an atomist view of meaning; a consequence that Einstein would be hesitant to accept.

1.5. Epistemological Implications of Relativity

The epistemological implications of Einstein's general theory of relativity were quite revolutionary in that our intuitive notions of space, previously taken for granted, had to be completely discarded. As such, this advancement in physics had serious implications in philosophy. As Reichenbach noted, "the theory of relativity selected exactly those statements that had been regarded as inadmissible and made them the guiding principles of its physical assumptions" (Reichenbach, *The Theory of Relativity and A Priori Knowledge* 1-2). The consequence was that Euclidean geometry, which constituted much of the Kantian synthetic a priori knowledge claims, was no longer applicable. So, philosophers, mathematicians and scientists tried to establish how we ought to interpret the refutation of Euclidean geometry. Neo-Kantians could claim that relativity was an objection to Euclidean geometry's *conceptual* framework. The empiricists could claim that Euclidean geometry, although seemingly intuitive, was actually founded on our experiences and familiarity with the external world. And, thirdly, some mathematicians could suppose that Euclidean geometry was one possible framework, or schema amongst many that did not in fact reveal any truths about the real structure of the world. However, the general theory of relativity explicitly rejects all these objections to the notion of relativity. In other words, "this theory asserts simply and clearly that the theorems of Euclidean geometry do not apply to our physical space"

(Reichenbach, *The Theory of Relativity and A Priori Knowledge* 4). So, philosophers were vexed. Who was right – Kant or Einstein? It seemed that neo-Kantians could in no way appropriate the general theory of relativity in their system

Nonetheless, it did not keep some neo-Kantians from trying to accomplish such a feat. Reichenbach criticized neo-Kantians for subjecting the physical theory of relativity to their own philosophical prejudices in the same way that the positivists had done. He explains, “Whereas the right of positivism to interpret the theory of relativity is based on the relativistic restriction to observables, that of Kantianism is based on the interpretation which the theory of relativity gives to the unobservables, space and time” (Reichenbach, *The Present State of the Discussion of Relativity* 23). The problem, or incommensurability between the two systems, arose because Kant accepted the *content* of the forms of intuition without question. Reichenbach explains the apparent incompatibility between Einstein’s theory and Kant’s transcendental philosophy:

Kant does not want to say merely that the general *a priori* laws are logically correct – this would be trivial – but rather that empirical knowledge cannot dispense with them. The theory of relativity, in turn, is an empirical theory which does *not* make use of *a priori* laws of space and time; the theory shows that it is possible to attain empirical knowledge by means of conditions of experience that are *different* from the Kantian ones. If, in spite of this fact, one wants to defend Kant’s philosophy of space and time, one would have to show that the validity of Kant’s forms of pure intuition must be presupposed for any application of non-Euclidean geometry and relativistic time (Reichenbach, *The Present State of the Discussion of Relativity* 24).

Instead of offering such a demonstration, many neo-Kantians merely claimed that physical theories *cannot* affect pure intuition (Reichenbach, *The Present State of the Discussion of Relativity* 24). Reichenbach argues that no such demonstration is, in fact, possible. Moreover, the theory of relativity *does* offer empirical objectivity without Kant’s pure forms of intuition. To clarify, Kant does attribute content to the pure forms of

intuition by asserting that they force us to accept the axioms of Euclidean geometry (Reichenbach, *The Present State of the Discussion of Relativity* 25). Therefore, Reichenbach concludes that Kant's ideas of pure intuition cannot be reconciled with the space-time conception in the theory of relativity. However, this conclusion does not entail that the (Kantian) transcendental *method* can not be modified to fit with Einstein's relativity.

Thus, Reichenbach invokes Ernst Cassirer's "originative and constructive" interpretation of Kant's philosophy to present a neo-Kantian interpretation of relativity with merit; one that frees itself from a dogmatic defence of Kantian *doctrine* in order to suggest a continuation of Kant's *method*. Cassirer refrains from attributing the content of Euclidean space to Kant's notion of pure intuitions to conform to a less determinate "general law of co-existence". He writes, "The most general meaning of the term [pure intuition], a meaning to which Kant does not always adhere since he inadvertently gives the term more specific meanings and applications, is simply that of the order of coexistence and of succession" (Reichenbach, *The Present State of the Discussion of Relativity* 27). So, instead of Euclidean space, we are left with a much more general requirement, or manifold, in which "all metrical determinations are to be equivalent and uniquely correlated to one another" (Reichenbach, *The Present State of the Discussion of Relativity* 27). Reichenbach explains that Cassirer rightly separated the idea of the metric from Kant's pure intuition. The metrical axioms are not dictated to us by the form of our intuitions. For example, he states that Euclidean geometry is a result of a particular form of metrical axioms. Reichenbach therefore suggests that this projection of Kantian philosophy might serve to complete Kant's idea that space and time have no physical

reality, but are merely structural laws that contribute to knowledge, stating, “One may say that the conception of the ideality of the forms of intuition finds its mathematical expression in the principle of general relativity” (Reichenbach, *The Present State of the Discussion of Relativity* 27).

Overall, Reichenbach seems to praise Cassirer’s effort at reconciling Kant and Einstein. Despite the acclaim he gives to Cassirer’s projection of Kant’s transcendental method, Reichenbach claims that Cassirer’s modification causes the transcendental method to lose its apodictic character. Or, in other words, Cassirer’s “general law of co-existence” can no longer have the same sense of certainty as Kant’s synthetic *a priori* judgments because the framework for empirical reality is unnecessary and undetermined. In turn, this consequence has serious epistemological implications. Epistemology can no longer serve to establish the foundations or possible conditions for knowledge. Rather, it becomes a method of scientific analysis, according to Reichenbach. “It is concerned with discovering what principles of knowledge hold at a given time” (Reichenbach, *The Present State of the Discussion of Relativity* 29).

Reichenbach asserts that the philosophical significance of Einstein’s general theory of relativity is found in its epistemological implications, i.e. “the modification of certain epistemological concepts” (Reichenbach, *The Present State of the Discussion of Relativity* 42). He is very careful in stating that he is not incorporating the theory of relativity into any philosophical system, but simply accentuating the philosophical consequences of the physical theory. The theory originated from a problem of interpretation because of a contradiction between two optical experiments.² This was not

² The Michelson and the Fizeau experiments (Reichenbach, *The Present State of the Discussion of Relativity* 31, 44).

a problem of discovery. Moreover, the theory was a *logical* achievement because it established a theoretical connection between observed facts. Reichenbach explains, “The significance of Einstein’s solution consists in the fact that it explains this unobservability by the principle of relativity, in this case by giving up the view that a material ether can serve to determine a state of motion” (Reichenbach, *The Present State of the Discussion of Relativity* 31). And, by giving up the ether, Reichenbach argues that Einstein renounced the applicability of the concept of *substance* for physics.

Reichenbach notes that Einstein was aware of these philosophical implications of his theory. Einstein cites Mach (and Hume) as having a significant influence on his thought. It is reasonable to assume that Einstein was invoking a kind of conventionalism about scientific concepts. And, this analysis of scientific concepts (or “conditions of experience”) is exactly what Reichenbach sees to be the main philosophical result of relativity. Reichenbach furthermore agrees with Schlick’s philosophical empiricism and rejects Kant’s conception of pure intuition altogether. The result of this view is that the general principles of knowledge become arbitrary. As a result, Reichenbach leaves us also with a kind of conventionalism. But, this “conventionalism” differs from Poincaré’s position in one important way. These “conventions” determine the conception of objects. So, modern philosophers of science should not only attempt to detect the arbitrary principles of knowledge, but determine which combinations are permissible. These combinations, according to Reichenbach, are articulated in definitions. And, this sort of articulation of combinations is exactly what Einstein accomplished with his notion of relative simultaneity. Reichenbach concludes that “the Relativists leave the decision concerning the admissible combinations of these principles to experience, and they

believe that a continuous change of these principles is possible” (Reichenbach, *The Present State of the Discussion of Relativity* 42).

1.6. Howard – The “Split” between Einstein and the Circle

As described earlier in this introduction, Carnap, Reichenbach and Schlick, through logical analysis, came to the conclusion that in accepting the general theory of relativity, Kantian synthetic a priori judgments had to be discarded. As a result, they argued for an atomistic account of meaning, according to Howard. Einstein, on the other hand, did not accept such a reductionist account of physics. He argued that, contrary to what the logical empiricists believed, there were no profound epistemological distinctions between analytic definitions and synthetic empirical judgments. Any distinction that exists is merely arbitrary. In this case, individual propositions cannot be verified by specific empirical or factual content. Rather, the entire theory as a whole must be verified or falsified. This view entails a holist account of meaning. Howard’s explain Einstein’s distancing from logical positivism in the following passage:

The need for coordinative definitions is a consequence not of some deep principled fact about the structure and interpretation of scientific theories. It is, rather, a reflection, of the primitive state of development of our fundamental physics, primitive in the sense that we are not now capable of deriving the concept of the practically-rigid body from physical first principles and so must introduce it independently into our total body of theory through coordinative definition (Howard 89).

However, Einstein’s disagreement with the logical positivists about the analytic-synthetic distinction does not entail that Einstein accepted Kant’s idea (or doctrine) of the synthetic a priori. In contrast, what Kant took to be synthetic a priori principles, Einstein saw as simply conventional in the same way that synthetic a posteriori claims would be

considered as mere conventions. “Einstein answers the neo-Kantian by arguing simply that while the distinction between the a priori and the a posteriori must be made in order to evaluate a theory’s empirical warrant, the way in which one draws the distinction is arbitrary, so that, contrary to the Kantian position, a proposition’s being dubbed ‘a priori’ carries with it no principled epistemological distinction, such as conferring on it an immunity from prosecution on the basis of contrary experience” (Howard 90-91). In order to better understand this seemingly contradictory position of a revisable a priori, it is necessary to emphasize that many philosophers of science came to understand the a priori to be a sort of necessary presupposition for the possibility of scientific pursuit. That is, the a priori came to be equated with a sort of relativized and revisable analytic claim which signified the logical consequences of the structural rules of a particular language (Creath 286). Richard Creath explains this ersatz a priori:

It still serves much the same function; if the language is appropriately constructed, the usual claims of logic, mathematics, set theory, (mathematical) geometry, and perhaps more will still be analytic; and it still forecloses the need for empirical justification. This choice of language is conventional in the precise sense that it neither has nor needs epistemic justification, that is, reason for thinking that a given choice is the correct or true one” (Creath 287).

So, because the choice of language is conventional, or epistemically arbitrary, the a priori also becomes relativized rather than apodictic.

1.7. Conclusion

Einstein, then, rejected the logical positivist interpretation of the epistemological implications of the theory of relativity. Instead, he proposed a holist model as the basis for creating and verifying scientific theories. However, in a response to Howard’s historical explication of Einstein’s break with the Vienna Circle, Oberdan questions the

strength of the argument that attributes Einstein's disenchantment with Carnap, Reichenbach and Schlick to Einstein's rejection of the analytic-synthetic distinction and epistemological atomism. Oberdan claims that Carnap did in fact argue for some sort of holism while at the same time he defended the analytic-synthetic distinction. Consequently, Oberdan suggests that these two assumptions are not necessarily incompatible.

In the following chapter, I will delineate how Carnap eventually modified his account of verifiability concerning theoretical terms in his 1956 essay, *The Methodological Character of Theoretical Concepts*. Carnap's original insistence on an atomist account of meaning, presented in his earlier work (*Aufbau & The Unity of Science*), reinforced by Reichenbach and Schlick's efforts at interpreting the epistemological implications of Einstein's general theory of relativity, had to be abandoned due to the objections put forth by Quine and Hempel. But it remains questionable whether this could help reconcile the logical empiricists' analytic-synthetic distinction with Einstein's view of physics; namely, a view that relies on something more than symbol-world relations to explain physical reality. Oberdan writes, "Einstein granted that physics yields relations among sense experiences, though never directly but only mediately so. Describing physics in terms of the connections it establishes among experiences does not exhaustively characterize its function. Rather, *the function of physics is the construction of conceptual models of the nomological structure of the real world*" (Oberdan 115). I will, therefore, trace the development of Carnap's epistemological project to show in what sense, if any, Carnap adopted a holist conception

of significance while retaining a distinction between analytic definitions and synthetic propositions.

CHAPTER TWO

The Development of Carnap's Project

2.1. Introduction

Over the course of the first half of the twentieth century, Carnap defended three distinct attempts at establishing the cognitive significance of theoretical terms within scientific theories. In this chapter, I will present the historical development of Carnap's epistemological project by expounding on his three varied positions concerning the status of analyticity within the structure of these interpretative systems. His first attempt in 1928 to legitimize the scientific enterprise and give an empirical account of justification was to reduce theoretical terms to observational sentences, by way of analytic correspondence rules. This initial attempt was explicitly definitional. Carnap then modified his view in 1936 to a bilateral reduction sentence account of correspondence rules. This position was more concerned with the degree of confirmation of theoretical terms than with the original reductionist project. That is, Carnap was no longer intent on providing rules of equivalence, but rather wanted to establish ones of confirmation. This slightly vague account was meant to show that confirmation, not equivalence, was sufficient for justification. Finally, by 1956, Carnap offered an explicitly holist account of the significance of theoretical discourse due to the criticisms put forth by Hempel and Quine. Moreover, one understanding of Carnap's later view suggests that because Carnap accepted a holistic conception of theory structure, his use of the analytic-synthetic distinction must have been pushed into the background of his philosophical system. To uphold both a holist thesis and a separation between analytic and synthetic propositions was thought to be necessarily troublesome.

2.2. 1928 – Carnap’s Initial Position

In 1928, Carnap published *The Logical Structure of the World* in which he presented a thoroughly empiricist account of scientific terms. In other words, Carnap wanted to eliminate the possibility of any metaphysical terminology in scientific theories. In undertaking this project, Carnap accepted the British empiricist tradition’s emphasis on the senses, but he also wanted to complement these insights with the particularity of logical form without consenting to the Rationalists’ claim that reason alone can provide novel and substantive content to knowledge. In the preface to the second edition, Carnap writes, “Through the influence of Gottlob Frege, under whom I studied in Jena... and through the study of Bertrand Russell’s work, I had realized, on the one hand, the fundamental importance of mathematics for the formation of a system of knowledge and, on the other hand, its purely logical, formal character to which it owes its independence from the contingencies of the real world” (Carnap, *The Logical Structure of the World* vi). That being said, the attempt to offer a rational reconstruction of theoretical concepts in all the sciences on the basis of the immediately given was the main philosophical issue in this work. This analysis, or what Carnap calls the “explication of concepts”, was meant to clarify and to provide explicit definitions for concepts that had originated from unreflective necessity, or “spontaneous development” (Carnap, *The Logical Structure of the World* v). These new concepts would be more precise, or exact, and would fit into a larger systematic structure.³

³ The exact nature of Carnap’s epistemological project remains controversial. C.f. Richardson, Alan. “Tolerating Semantics: Carnap’s Philosophical Point of View” in *Carnap Brought Home: The View from Jena*. Awodey, Steve & Klein, Carsten (eds.) Chicago: Open Court, 2004. 63-78, for the motivations behind Carnap’s use of formal semantic and logical syntax; Friedman, Michael. “Carnap and the Evolution

Instead of reiterating the arguments in support of the empirical justification of concepts, Carnap's method in this work was to construct a system based on basic concepts, such as sensory qualities and their relations, and subsequently form further definitions from those basic building blocks. One of these basic concepts that constituted all fundamental elementary experiences was the recollection of similarity. Of course such a program had to call on the complexities of modern logical systems, which "contain a comprehensive theory of relations and their structural properties" (Carnap *The Logical Structure of the World* vii). Carnap's reasoning was such that a rational reconstruction of concepts based on the empirically given would translate into a greater degree of intersubjective agreement.

Furthermore, Carnap understood his project to reduce reality to the given as a continuation of the work began by Mach and Poincaré, claiming "the present study is an attempt to apply the theory of relations to the task of analyzing reality" (Carnap, *The Logical Structure of the World* 7).⁴ In doing so, Carnap wanted to abstain from the previous dichotomy between two distinct metaphysical theses, i.e. realism and idealism, when speaking of concepts and objects. Every concept has its object, according to Carnap, but several objects may fall under that concept nonetheless. There is no meaningful ontological difference between these two types of references. Carnap thought

of the A Priori" in *Carnap Brought Home: The View from Jena*. Awodey, Steve & Klein, Carsten (eds.) Chicago: Open Court, 2004. 101-116, for an account of Carnap's use of the a priori; Creath, Richard. "Carnap's Program and Quine's Questions" in *Carnap Brought Home: The View from Jena*. Awodey, Steve & Klein, Carsten (eds.) Chicago: Open Court, 2004. 279-293, for an account of what Carnap intended by establishing the "logic of science".

⁴ More specifically, Carnap felt he had to follow and perhaps even push Russell's methodological principle, "wherever possible, logical constructions are to be substituted for inferred entities", to autopsychological and heteropsychological concepts as well. C.f. Carnap, *Pseudoproblems in Philosophy*. Berkeley & Los Angeles: University of California Press, 1967.

it was merely a difference between “mental imagery” and two different “interpretative modes of speech” (Carnap, *The Logical Structure of the World* 10). He wrote; “Does thinking ‘create’ the objects, as the Neo-Kantian Marburg school teaches, or does thinking ‘merely apprehend’ them, as realism asserts? Construction theory employs a neutral language, and maintains that objects are neither ‘created’ nor ‘apprehended’ but *constructed*” (Carnap, *The Logical Structure of the World* 10). Carnap dismissed this dispute between creation and apprehension as a mere linguistic confusion.

At the very beginning of the *Aufbau*, Carnap explained that his reconstruction of concepts is genealogical in the sense that concepts are not only analyzed, defined and related to other concepts, but they must also be derived from each other in a clear and definite manner. Moreover, a concept is reducible to another, more primary concept when all statements concerning that concept can be translated into statements about the primary concept. And, this reducibility, or translatability, is transitive, meaning that if $A \rightarrow B$ and $B \rightarrow C$, then $A \rightarrow C$. Carnap called this rule of translation a *construction rule* or *constructional definition*. And, the few foundational concepts along with these rules form the basis on which his construction theory could provide a unified account of science. Carnap explained, “Even though the subjective origin of all knowledge lies in the concepts of experiences and their connections, it is still possible, as the constructional system will show, to advance to an intersubjective, objective way which can be conceptually comprehended and which is identical for all observers” (Carnap, *The Logical Structure of the World* 7). Despite the unity of the domain of objects, or concepts, Carnap still upheld the practicality of differentiating between higher and lower-level concepts. We can differentiate between concepts that occupy different levels of the

constructional system, or we can differentiate between their form if they happen to be on the same level (Carnap, *The Logical Structure of the World* 9).⁵ In explaining the unity of concepts, Carnap also made an important distinction between a *whole* and a *logical complex*, insisting the latter better describes the higher-level, more complex concepts. He wrote, “The whole is composed of its elements; they are its parts. An independent logical complex does not have this relation to its elements but rather it is characterized by the fact that all statements about it can be transformed into statements about its elements” (Carnap, *The Logical Structure of the World* 9). It would seem, then, that the inferential quality of higher-level concepts was important.

The structure of Carnap’s constructional system of concepts in 1928 strongly rested on the idea of analytic correspondence rules. In turn, these analytic c-rules depended upon the possibility of definite descriptions, which “indicate the relation of the object in question to other objects” (Carnap, *The Logical Structure of the World* 24). These definite descriptions were distinguished from property descriptions which indicated the properties of the objects in the domain. The method of conveying a structural definite description to an object allowed empirical objects to have a unique symbol and made them subject to conceptual analysis. “The result,” Carnap wrote, “is that a definite description through pure structure statements is generally possible to the extent in which scientific discrimination is possible at all” (Carnap, *The Logical Structure of the World* 27). This method was also meant to permit the conception of empirical objects as individuals. Note here that there is a direct correspondence between each

⁵ The reference to form here is ambiguous. It may mean the way in which certain concepts are derived, or constructed, within the system, or it may allude to the way we apprehend and use those concepts.

theoretical term and the empirical object it corresponds to. This correspondence is made possible through the structural definite description:

Thus, for the validity of such a description, it is not only required that the describing structure statements be consistent, but, in addition, the following empirical requirements must also be fulfilled: in the object domain in question, at least one object must exist which answers the description and at most one such object must exist. Further statements about the object which has thus been described are then not all of them analytic, that is, deducible from the defining statements, as is the case with implicitly defined objects, but some of them are synthetic, namely, empirical findings within the object domain in question (Carnap, *The Logical Structure of the World* 28).

This method was so imperative for Carnap because he thought if all scientific statements referred to objects in the same object domain, it would be possible in principle that all statements could be reduced to their purely structural form. And, it would be exclusive of statements which would involve both an object's structural properties and the indication of its domain. The predominance of structure over any material reference to objects would then assure the objectivity of scientific ventures. Moreover, Carnap differentiated between the *correlation* problem and the *essence* problem when it came to the investigation of relational structures. The former is what ought to be the task of science. The latter is not concerned with facts, but with interpretation. Consequently, it had no place in science and should be confined to metaphysics.

Thus, Carnap's initial position on the significance of theoretical terms for science was rooted in a constructional system based on the structure of definitional links. Explicit definitions, or definitions-in-use, were used as the rules of ascension in the system. In turn, each level of ascension displayed a logical translation wherein the transformation of the propositions in question would retain their logical value but not necessarily their epistemic value. Carnap explains, "The formulation of the constructional system does not

attempt to represent the way in which the various experimental contents are experienced, but rather it is to be an account only of the logical relations which are contained in them; this is done through a *rational reconstruction* of the synthesis of the contents of experience, which in actual experience is for the most part intuitive” (Carnap, *The Logical Structure of the World* 171).

Likewise, in *The Structure of Scientific Theories*, Frederick Suppe addresses the historical background and development of the *Received View* concerning scientific theories, a phrase coined by Putnam, describing the implications of Carnap’s understanding of the structure of scientific theories and the status of theoretical terms. According to Suppe, the position preceding Carnap’s view in the *Aufbau* indicated that “theoretical terms are to be explicitly defined in terms of phenomena (or phenomenal language) and are nothing other than abbreviations for such phenomenal descriptions” (Suppe 11). But, because the Vienna Circle was so influenced by developments in mathematics and logic, especially by Whitehead and Russell’s *Principia Mathematica*, Carnap introduced the axiomatization of scientific theories in mathematical logic. Suppe explains:

The axiomatizations must include various explicit definitions for the theoretical terms of the form:

$$Tx=Ox$$

where ‘T’ is a theoretical term and ‘O’ is an observation term. Such explicit definitions are called *correspondence rules* since they coordinate theoretical terms with corresponding combinations of observation terms. The observation terms are taken as referring to specified phenomena or phenomenal properties, and the only interpretation given to the theoretical terms is their explicit definition provided by the correspondence rules” (Suppe 12).

The result of this thesis was that theoretical terms such as *mass* or *force* could be cognitively significant because they could be translated into explicit phenomenal

definitions or observational descriptions. The implications of the thesis for the development of science was that scientific enterprises were to be build up from the empirical generalizations described by observational statements, then explicit definitions would be used to introduce theoretical terms, and, finally, from these theoretical terms, theoretical laws were formulated. It depicts a process that would begin with facts and ends with generalizations.

2.3. 1936 – Carnap's First Modification

As the developments concerning this position progressed, some aspects of the initial position were altered and the criterion for cognitive significance was changed to better fit the actual circumstances of the empirical sciences. In 1936, Carnap slightly modified the verifiability conditions required to fulfill cognitive significance. In

Testability and Meaning, Carnap claimed:

We shall speak of the problem of *confirmation* rather than of the problem of verification. We distinguish the *testing* of a sentence from its confirmation, thereby understanding a procedure – e.g. the carrying out of certain experiments – which leads to a confirmation to some degree either of the sentence itself or its negation. We shall call a sentence *testable* if we know such a method of testing for it; and we call it *confirmable* if we know under what conditions the sentence would be confirmed (Carnap, *Testability and Meaning* 420).

Carnap felt the need to abandon the strict requirement of verifiability exemplified by the rules linking scientific terms to observations. Originally, the correspondence rules were meant to serve three functions: 1) they had to define the theoretical terms; 2) they had to ensure their meaningfulness; and 3) they had to indicate the admissible procedures for applying the theory to observations (Suppe 17). Carnap had to modify the form of the

correspondence rules in his theory to account for two problems within the original position.

The first problem arose from the particularity of dispositional terms. Dispositional terms were problematic because their meaning could not be expressed by explicit definitions referring to observations (Carnap, *Testability and Meaning* 440). Suppe presents the following example of the dispositional term “fragile”: “An object x is fragile if and only if it satisfies the following condition: for any time t , if x is sharply struck at t , then x will break at t ” (Suppe 18). Carnap’s original position required a first-order predicate calculus with equality as the axiomatized canon between theoretical terms and correspondence rules. So, the above description of “fragile” should be translated like this: $Fx \equiv (t) (Sxt \rightarrow Bxt)$. But, this definition fails to adequately define the dispositional term “fragile” because the strong equivalence makes it also true of any object which is never sharply struck. But, it is the case that many objects that are never struck (and thus never broken) are not fragile. Therefore, the account of correspondence rules as strict and complete definitions fails to adequately account for dispositional terms.

The second problem concerned the inconsistency between the notion that correspondence rules must be explicitly, or operationally, defined and actual customary scientific practice. According to P.W. Bridgman, a physicist, theoretical concepts are synonymous with their related set of operations (Suppe 19). For example, the concept of length could be defined according to the operations by which length is measured. This idea of operational definitions runs into the same problem as dispositional terms. That is, the concept of length, like the concept of fragile, is described in terms of the results which would occur if the operations or procedures would be carried out. But, in addition

to that problem, there are sometimes more than one possible experimental procedure to arrive at any given theoretical concept. Suppe offers the example of an object's mass to display the shortcomings of the rigidity of the correspondence rules in the initial view:

Since concepts or properties are identified with unique combinations of operations, each different experimental procedure defines a distinct concept, and so there are as many distinct concepts of *mass* as there are procedures for determining it. In actual scientific practice, however, these different procedures are taken as measuring the same thing, *mass*; thus operational definition is unsatisfactory as an analysis of meaning (hence the cognitive significance) of theoretical terms (Suppe 19).

In other words, operational definitions fall short of providing a satisfactory criterion for cognitive significance when it comes to theoretical terms because it cannot integrate the various possible experimental procedures in the way required for the correspondence rules to be operationally definable. Even if we posit a super-concept of *mass*, as Suppe suggests, that would unite all the particular experimental procedures revealing the mass of objects, that super-concept of mass would be left undefined, at least not operationally or explicitly defined and therefore, not cognitively significant.

In order to overcome these two difficulties with the original position, Carnap had to modify the correspondence rules to allow for a more flexible definitional relationship between theoretical terms and observational sentences. As Suppe puts it; "it is necessary that no particular experimental procedure or particular observational condition be made a necessary condition for the applicability of a theoretical term; at most correspondence rules need only supply sufficient observational conditions for the applicability of theoretical terms" (Suppe 21). The correspondence rules in this second account are thought of as reduction sentences that define only in part the theoretical terms. The bilateral reduction sentence for the previous example concerning fragile objects would

then translate to: $(x)(t)[Sxt \rightarrow (Bxt \equiv Fx)]$. As a result, the previous problematic implication is avoided because the objects which are never sharply struck are not necessarily fragile. The translation indicates only that under certain conditions, i.e., when they break as a result of a strike, the objects in question are considered fragile. In other words, it stipulates a test condition and thus provides a degree of confirmation of the theoretical term. These more relaxed correspondence rules seemed to lose their analytic character, if we take analytic rules to be strict equivalences. In fact, they become mere entailments that offer a degree of confirmation of the cognitive significance of the given theoretical term. Carnap admitted that we cannot give an accurately quantitative account of what it means for an assertion to possess a degree of confirmation in terms of probability statistics or relative frequency. At best, it seems we can define the concept as a relational property, e.g. S_1 has a higher degree of confirmation than S_2 . In his 1936 paper, Carnap states this result, pronouncing, “*No complete verification is possible but only a process of gradually increasing confirmation*” (Carnap, *Testability and Meaning* 425). Likewise, Suppe explains, “First by allowing correspondence rules to be reduction sentences, it no longer can be required that correspondence rules completely define the meaning of theoretical terms; rather, correspondence rules only *partially* define them since more than one reduction sentence (correspondence rule) is possible for the same theoretical term” (Suppe 22). To stick with the same example, a fragile object can also be partially defined as one that breaks if exposed to high frequency sounds. As a result, the criteria for the meaningfulness of theoretical terms now changed: “Every term with empirical significance must be capable of introduction, on the basis of observation terms, through chains of true reduction sentences. These reduction sentences were claimed to be

analytic sentences” (Suppe 23). The reduction sentences retained their analytic status because Carnap wanted to maintain the reliability of the method of reducibility which makes necessary “the validity of certain universal sentences...; thus the facts mentioned are special features of the structure of that system, or – expressed in the material idiom – special features of the causal structure of the real world” (Carnap, *Testability and Meaning* 417). This understanding presupposed a certain view of language and knowledge acquisition which eventually led to a third modification in 1956.

2.4. Objections from Hempel and Quine

Carl Gustav Hempel questioned the reliability of the second position delineated in *Testability and Meaning* because certain theoretical terms in science, such as “absolute temperature,” “volume,” “electron,” and “force” are never introduced via simple reduction sentences or chains of reduction sentences. And, even more notable than the fact that they do not become part of meaningful scientific discourse in this manner, he insisted that such terms *cannot* ever be completely understood by such a method. Hempel argued:

Terms of this kind are not introduced by definition or reduction chains based on observables; in fact they are not introduced by any piecemeal process of assigning meaning to them individually. Rather, the constructs used in a theory are introduced jointly, as it were, by setting up a theoretical system formulated in terms of them and by giving this system an experimental interpretation, which in turn confers empirical meaning on the theoretical constructs (Suppe 23).

Hempel then concluded that rendering introduction via chains of reduction sentences as a viable criterion for the cognitive significance of theoretical terms was unreasonable.

Instead, the meaning of theoretical terms was interpreted according to the relationships between them and the observational sentences included in the entire system. This holistic

approach to semantics was obviously very different than Carnap's previous atomic systems.

Carnap eventually modified his account of the significance of theoretical terms in light of additional objections raised by W.V. O. Quine. In two pivotal papers, *Two Dogmas of Empiricism* (1953) and *Epistemology Naturalized* (1969), Quine presented arguments for rejecting the epistemological project of the logical positivists. In the first essay, Quine argued against analyticity by claiming that the so-called analytic statements are in fact cases of synonymy. Quine stated, "Analyticity at first seemed most naturally definable by appeal to a realm of meanings. On refinement, the appeal to meanings gave way to an appeal to synonymy or definition. But definition turned out to be a will-o'-the-wisp, and synonymy turned out to be best understood only by dint of a prior appeal to analyticity itself. So we are back at the problem of analyticity" (Quine, *Two Dogmas of Empiricism* 40). Therefore, Quine reached the radical conclusion that any distinction between analytic and synthetic statements is a fabricated one. "But, for all it's 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" (Quine, *Two Dogmas of Empiricism* 43). The second dogma Quine challenged in this paper is the very idea of reductionism presented in Carnap's earlier epistemological works. More specifically, Quine questioned the possibility that isolated propositions can be empirically verified. He called such a theory of verifiability "radical reductionism" and this entailed that "every meaningful statement is held to be translatable into a statement (true or false) about immediate experience" (Quine, *Two Dogmas of Empiricism* 45). Carnap was never able to show how each

statement is translatable into the primitive structure of empirical/sensory data and logical connectives. So, Quine suggested that the empiricists should abandon the reductionist ship and instead recognize that the meaning of isolated propositions can only make sense when taken in its theoretical totality. He wrote, "Taken collectively, science has its double dependence upon language and experience; but this duality is not significantly traceable into the statements of science taken one by one" (Quine, *Two Dogmas of Empiricism* 48). The results of rejecting these two dogmas are comparable to Howard's description of Einstein's understanding of the structure of scientific theories mentioned in the first chapter. That is, the aim of physics is to strive towards a complete conceptual model of the structure of the physical world, which retains a law-like character, rather than simply to offer one-to-one connections between sensible experiences and theoretical achievements.

But, in the case that Carnap was not completely convinced by Quine's rejection of analyticity and reductionism, Quine presented further arguments against the positivists' epistemological project in *Epistemology Naturalized*. Carnap attempted to provide a foundation for knowledge of the natural world by basing knowledge in sensory experience. In turn, any truth claim would be reducible to the observational sentences, which represent our sensory experiences and are constructed according to syntactic, or logical, forms. Quine explained this project, "Just as mathematics is to be reduced to logic, or logic and set theory, so natural knowledge is to be based somehow on sense experience. This means explaining the notion of body in sensory terms; here is the conceptual side. And it means justifying our knowledge of truths of nature in sensory terms; here is the doctrinal side of the bifurcation" (Quine, *Epistemology Naturalized*

293). However, it was later shown that Carnap's positivist project failed to accomplish a viable method of verifiability by depending on observational sentences. And, in failing to do so, it had no doctrinal account of knowledge. Quine attributed the failure of the Carnapian project to the failure in grounding our immediate experiences (or protocol language) in a precisely logical way. He argued, "But the mere fact that a sentence is *couched* in terms of observation, logic, and set theory does not mean that it can be *proved* from observation sentences by logic and set theory" (Quine, *Epistemology Naturalized* 294). So, Carnap's logical, conceptual and linguistic analyses failed to provide a destination for the Cartesian quest for certainty. Quine explained the failure of the foundational project of Carnap and his colleagues as the unsuccessful attempt to translate (because of his idea of indeterminacy) isolated synthetic propositions into meaningful factual or empirical content. Quine argued:

The fact is, though, that the construction which Carnap outlined in *Der logische Aufbau der Welt* does not give translational reduction either. It would not even if the outline were filled in. The crucial point comes where Carnap is explaining how to assign sense qualities to positions in physical time and space. These assignments are to be made in such a way as to fulfill, as well as possible, certain desiderata which he states, and with growth of experience the assignments are to be revised to suit. This plan, however illuminating, does not offer any key to translating the sentences of science into terms of observation, logic, and set theory (Quine, *Epistemology Naturalized* 295).

Quine insisted that what is nonetheless valuable in Carnap's attempt to provide a foundational ground for the verifiability of scientific theories is that it shows that it would be more reliable, and perhaps more productive, to aim for a grounding of meaning in the theoretical whole rather than in the isolated statements about empirical reality (Quine, *Epistemology Naturalized* 296).

2.5. 1956 – Carnap's Holist Position

In his 1956 essay *The Methodological Character of Theoretical Concepts*, Carnap seemed to acknowledge the problem of indeterminacy, or the impossibility of a translational reduction, of individual scientific propositions. Again, instead of positing a verifiability theory based on reduction, he emphasized the notion of a degree of confirmation of theoretical terms or theories, more generally. The correspondence rules between the theoretical terms and the observational or empirical proposition were not ones of strict equivalence because the correspondence rules in this updated account occupied a dual function in scientific theory. That is, they defined the meaning of theoretical assertions and, at the same time, they contributed to the description of the empirical content. Carnap explained; “The definition of meaningfulness must be relative to a theory T, because the same term may be meaningful with respect to one theory but meaningless with respect to another” (Carnap, *The Methodological Character of Theoretical Concepts* 48). Therefore, cognitive significance had to be attributed to the theory as a whole, rather than to each individual theoretical postulate. To make the distinction between the earlier version of Carnap's verifiability theory and this later construction, Suppe offers the following explanation:

The successive weakenings in the requirements on correspondence rules culminates in the following picture of scientific theories. A scientific theory TC is an axiomatized system where T are the theoretical postulates or basic laws of the theory formulated in Lt, and C are correspondence rules specifying the admissible applications of T to observable phenomena. The inclusion of C in the theory enables T to be used to make predictions about what will be observed subsequently (Suppe 27)...

... It should be observed how much the final version differs from the initial version of the Received View. Initially the Received View was an account of theories which attached little importance to the theoretical apparatus, TC, its function being little more than a means for introducing mathematics into science.

In its final version, theories are construed realistically as describing systems of nonobservables which relate in incompletely specifiable ways to their observable manifestations; as such the theoretical apparatus is central to its analysis, and the emphasis on how the theoretical apparatus connects with phenomena (Suppe 52).

Suppe understands the final version presented by Carnap in 1956 as one in which the tendency should have been to abandon the analytic-synthetic dichotomy. And, similarly, the correspondence rules could no longer be considered analytic truths. Consequently, the correspondence rules could not define any particular theoretical term by themselves.

Instead, they specified the admissible experimental procedures for applying the theoretical terms to the observation sentences. Despite these differences from his earlier views, its suggestion of a holist interpretation of the meaningfulness of scientific theories and unlike Quine's conclusion about the uselessness of the analytic-synthetic distinction, Carnap nonetheless seemed to want to maintain the distinction between analytic statements and synthetic claims.

However, Carnap did not think that the analytic statements, or definitions, in scientific theories occupied any privileged status over the synthetic judgments. Like Einstein, he suggested that the analytic definitions are not immune to revision. "Carnap never thought that analyticity was about inviolable truth, 'sacrosanct statements,' unrevisability or the like. Instead, he thought that 'the difference between the analytic and synthetic is a difference internal to two kinds of statements inside a given language structure; it has nothing to do with the transition from one language to another'" (Psillos 154). At a first glance, this view of analyticity might seem contrary to the traditional understanding of what an analytic claim is. That is, an analytic statement is what has meaning in virtue of itself, or its meaning is contained within itself. It is usually agreed that analytic statements are immune to revision. In contrast, the predicates of synthetic

claims are not contained within the subject concepts of the assertions. These types of claims rely on experience to offer something new, beyond the meaning of its constituent concepts. So, Carnap faced the apparently unfeasible task of merging the holistic interpretative system of the third position concerning the cognitive significance of theories with some understanding of analytic sentences.

2.6. 1959 – Carnap's Last Effort

In 1959, Carnap presented a paper, *Theoretical Concepts in Science*, in Santa Barbara, California in attempt to accomplish this feat. Carnap had expressed that the distinction between analytic claims and factual assertions displayed the difference between mathematics and physics (which itself involves applied mathematics), thereby making it a significant distinction for any scientific methodology. But, because of the criticisms by Quine and Hempel, Carnap seemed to realize that the analytic-synthetic distinction became fuzzy if one accepted that “the theoretical postulates and the correspondence postulates which constitute a theory play a dual role: they contribute to the meaning of theoretical terms, but they also delineate the empirical content of the theory” (Psillos 152). In his previous account, Carnap seemed to accept that “the meaning-fixing function of the theory cannot be separated from its fact-reporting function” (Psillos 152). As a result, the notion of analyticity in *Testability and Meaning* was not specifically, nor clearly addressed. But, it was suggested that the analytic component of a scientific theory, or a language that includes theoretical terms, in that account had been relegated to coincide with logical truths. In the 1959 presentation, Carnap made use of the *Ramsey-sentence* approach – “where all theoretical terms that

feature in a theory are replaced by variables, bound by existential quantifiers” – to explain the distinction between analytic and synthetic statements within a theory (Psillos 153). This approach held the following view of theoretical terms:

A theory TC can be written in the following logically equivalent form: ${}^R\text{TC} \ \& \ ({}^R\text{TC} \rightarrow \text{TC})$, where ${}^R\text{TC}$ is the Ramsey-sentence of the theory, while the conditional $({}^R\text{TC} \rightarrow \text{TC})$ says that *if* there is a class of entities that satisfy the Ramsey-sentence, *then* the t-terms of the theory denote the members of this class (Psillos 154).

Carnap suggested that the *Ramsey-sentence* construction of the theory accounted for the synthetic or experiential claims and the second half of the conjunction, the conditional $({}^R\text{TC} \rightarrow \text{TC})$, denoted the analytic sentences. The conditional is analytic because it has no factual content. The *Ramsey-sentence* construction of the theory, i.e. the synthetic claim, within the conditional is logically true. Thus, Carnap thought he had figured out how to include the notion of analytic statements within theoretical language. Stathis Psillos states that “when he managed to draw this line, he was, understandably, very pleased. There might still be independent reasons to jettison analyticity. But the fact that theoretical terms are introduced via theoretical postulates and correspondence rules cannot be one of them” (Psillos 154).

2.7. Conclusion

According to this last adjustment to Carnap’s original epistemological project in the *Aufbau*, it can be argued that despite the three alterations concerning the status and the function of the correspondence rules, Carnap figured out an ingenious way to maintain the distinction between analytic claims and synthetic content while providing meaning to theoretical terms, or, in the last case, for entire theoretical constructs.

Moreover, the use of the *Ramsey-sentence* approach assures a holistic method of establishing cognitive significance. As Psillos points out, “The Ramsey-sentence characterises theoretical terms in a *holistic* way: it can only specify the meaning of a set of theoretical terms as a whole, by stating their mutual connections as well as their links with observational terms” (Psillos 156). Therefore, the development of Carnap’s view of the criteria for cognitive significance of theoretical terms may be given as an appropriate example that gives credence to Oberdan’s argument against Howard. That is, Howard assumed that the analytic-synthetic distinction necessarily entails atomism. And, because atomism and holism are supposedly incompatible, he concluded that holism must be inconsistent with the analytic-synthetic distinction. Oberdan rejected the first premise of the argument as unsound. Oberdan made mention of Carnap’s later work to suggest how Carnap never explicitly rejected a holist account of meaning, even though he did maintain a distinction between analytic and synthetic propositions.

To clarify, Carnap wanted to retain the status of analyticity within theory construction as a crucial component that is necessary to reveal the meaning of theoretical terms within a given language. Meaning, understood in this way, is a (logical) relation clarified by appeal to a theory of meaning that makes use of the notion of analyticity. Carnap took the essential issue of his theory of meaning to be the clarification of analytic statements, and consequently, the clarification of the predicate “is analytic”. He intended to accomplish this project by showing that certain sentences or propositions had a formal feature in common by which their truth-value was determined (Butrick 22). But, the final version of Carnap’s account of the cognitive significance of theoretical terms brings into doubt the possibility that analytic sentences must share one common formal property. In

Carnap on Meaning and Analyticity, Richard Butrick explains; “There is no necessity for sentences which are held analytic to have a feature in common which makes them analytic. They have a common role after selection, which is a common feature, of course, but one they have after selection and not one which determines their selection” (Butrick 22). In other words, Butrick is suggested that any clear-cut method for identifying the form of true analytic claims becomes irrelevant, although it is crucial that the clarity concerning which sentences are analytic and why is unambiguously espoused: “The role of analytic sentences may be implicit in the rule of selection, but the rule of selection is not the role after selection since different rules provide the same role. Proof of which sentences come under a rule of selection does not clarify the role of analytic sentences” (Butrick 22). Thus, whether misguided or not, Carnap’s intention was to provide an explanation that would clarify the extension “is analytic” and present that explanation as the construction of a theory of meaning (Butrick 41).

In the next chapter, I will evaluate more closely the exact implications of Carnap’s modified position to assess whether his idea of analyticity as logical truth entails semantic holism, or whether it simply proposes confirmation holism and semantic atomism. Interestingly, Carnap admittedly sided with the latter interpretation (Psillos 157). A possible interpretation of Carnap’s position is presented by Fodor and Lepore in which they offer a reading of Quine’s arguments against the use of the analytic-synthetic distinction in science that coincides with confirmation holism and atomistic, not holistic, significance.

CHAPTER THREE

Fodor & Lepore: Implications of Meaning Holism & the A/S Distinction

3.1. Introduction

Jerry Fodor and Ernest Lepore, proponents of semantic atomism, have offered a fresh reading of Quine's well-known critique of empiricism, in which he attacks both the notion of analyticity and the method of reductionism. Their understanding of the issue can be used to offer an interpretation of Carnap's later position which suggests that a distinction between analytic and synthetic statements does not necessarily entail atomism. In this chapter, I will outline Fodor and Lepore's arguments in dissecting Quine's *Two Dogmas of Empiricism* which indicate that confirmation holism does not necessarily entail meaning holism. Fodor and Lepore retain the possibility of a distinction between analytic and synthetic statements, defend confirmation holism, and therefore, support a semantic atomist position. They defend the possibility of an analytic-synthetic distinction by separating the criteria of confirmation relations from the criteria of semantic evaluation, i.e., they draw a distinction between linguistic entities, like formulas, and trans-linguistic entities, like propositions. In other words, the confirmation of a judgment or a statement can be meaningful without depending on the semantic interpretation of the entire theory or language because confirmation holism and meaning holism depend on different kinds of things. They argue that Quine's attack consisted of combining the rejection of analytic assertions and reductionism to provide the basis for accepting confirmation holism. But, from this argument, Quine made a fallacious leap to meaning holism. Thus, Carnap's later modification of the received view could be interpreted in this way; Carnap maintained the distinction of analytic claims, proposed confirmation

holism and semantic atomism. This line of argument is one way to understand Oberdan's comment on Howard's account of holism. Interestingly, Fodor and Lepore seem to leave open the possibility for an alternative interpretation of the analytic-synthetic distinction; more specifically, a non-epistemic one.

3.2. *The Theses of Holism*

Proponents of holism maintain that words have meaning in sentences and, in turn, sentences have meaning within a language, so “nothing is a symbol except as it is part of *a whole system of signifiers*” (Fodor & Lepore ix). Fodor and Lepore stress the importance of recognizing the difference between various types of holism. Meaning holism, they contend, must be differentiated from holism about confirmation, holism about interpretation, and holism about the relationship between the functional properties of parts. That is, meaning holism cannot be deduced from the fact that a symbol, term, or sentence, can be confirmed or interpreted holistically. Interestingly, Fodor and Lepore also claim the meaning of a symbol can not be inferred from the way its functions are interpreted.⁶ In this case, for holism to be a viable theory of meaning, Fodor and Lepore think that certain specific questions must be addressed, such as; “What's the relation between theories of linguistic content and theories of belief content?; Are normative principles constitutive of intentional ascription?; How should we construe the relations between language and the mind?; and, How should we construe the relations between

⁶ This seems to be what Wittgenstein had in mind in the *Philosophical Investigations*, where he argues that the meaning of a word or statement is only comprehended when the way it is used in a language is understood. C.f. Wittgenstein, Ludwig. *Philosophical Investigations*. (3rd Ed.) Transl. by G.E.M. Anscombe. Oxford: Blackwell Publishing, 1953. I will address this point further in the next chapter.

language and the world?” (Fodor & Lepore xii). Taking such questions into consideration will clarify what is at stake in proposing a holistic semantic thesis.

Before dissecting Quine’s appeal for meaning holism, Fodor and Lepore lay out the issues concerning semantic theory and evaluation. Meaning holism, according to the authors, “is about the *metaphysically necessary conditions* for something to have meaning or content” (Fodor & Lepore 1). Thus, they believe it is imperative to evaluate the thesis of meaning holism within a metaphysical framework. Holistic properties, then, are properties by which the objects or symbols that possess them are dependent on other objects with those same properties. For example, natural numbers necessarily include relational, holistic properties. We cannot conceive of the number 21, for example, without acknowledging the existence of many other natural numbers. The authors proceed to make a distinction between *anatomic* and *punctuate* properties of language and theory structure. These properties include having intentional content and semantic value, as well as, providing grounds for possible inferences. An anatomic property ensures a metaphysical dependence between two objects or symbols. In other words, it requires that at least one other object possess the same property. Being a sibling is an anatomistic property because it depends on another person being a sibling. If a property is not anatomistic, then it must be atomistic, or punctuate. Fodor and Lepore’s aim is to figure out if properties; such as, being a symbol, having an intentional object, having intentional content, expressing a proposition, having a referent and being semantically evaluable, are anatomic or punctuate. They claim “The standard argument for meaning holism requires the premise that semantic properties are typically anatomic. Discussing anatomisity is thus a way into considering whether the connection between *being a*

symbol and *belonging to a language* is internal; whether symbols can have their being only as parts of whole language systems” (Fodor & Lepore 4).

The authors take into account several considerations concerning whether a symbol has semantic value only insofar as it is part of a whole language. First, when evaluating a symbol or term it is important to specify their semantic properties as *generic*. That is, they must express properties which express some proposition, have a referent or have content. This requirement must be taken into account when evaluating whether we can jump from propositions that display atomistic properties to semantic holism.

Atomistic properties can be further understood in light of two distinct philosophical traditions. The British Empiricists, like Peirce, James, Russell and members of the Vienna Circle, thought that the semantic properties of a symbol are determined solely by their relations to things in the non-linguistic world. Structuralists and cognitive psychologists, like Frege, Quine and Davidson, thought that the semantic properties of a symbol are determined, at least in part, by its role in a language (Fodor & Lepore 7). It seems that many thinkers in the philosophy of language presume that if semantic properties are shown to be atomistic in nature, then semantic holism must be an inevitable consequence. Such a holistic view of language has considerable implications for any theory of language-learning. For example, Dummett argues that “if a total theory is represented as indecomposable into significant parts, then we cannot derive its significance from its internal structure, since it has none; and we have nothing else from which we may derive it” (Fodor & Lepore 8; Dummett 599-600). In other words, Fodor and Lepore insist that if it is possible to learn a theory or a language incrementally, then the content of constituent sentences or propositions must be meaningful. But, meaning

holism would have to deny this as a possible procedure of education which makes a viable explanation of language or knowledge acquisition problematic. As Fodor and Lepore point out; “how, save in a single spasm of seamless cognition, could any language ever be learned?” (Fodor & Lepore 9).⁷ The implication of this kind of holism – the kind dependent on anatomistic properties which says that for a statement to be a meaningful expression of a language it must be holistic – is that a certain view of communication and acquisition is presupposed. “The picture is that the linguistic and theoretical commitments of speaker and hearer can overlap *partially* to any degree that you like” (Fodor & Lepore 10). This troubling implication would be the only way to reconcile the standard, conventional view of language acquisition with that specific account of meaning holism. However, Fodor and Lepore prematurely reject a third possibility that the standard, common-sense account of language acquisition as an incremental procedure is perhaps inadequate and replaceable with a better theory; one that better fits with some of the implications of semantic holism which the authors believe to be quite radical.

In similar ways, Fodor and Lepore think the implications of meaning holism for intentional content amount to counter-intuitive consequences for the philosophy of mind. They consider the possible argument for holism from the assumed anatomism of certain semantic properties. Such an argument would follow along the lines; “According to the present assumptions, if T* is anatomic, then it is holistic. And if T* is holistic, then (assuming that thoughts are individuated by their propositional contents) it might turn out

⁷ Of course, Chomsky’s well-known theory of language acquisition and his idea that we share a universal Grammar could be suggested as a plausible explanation of and a viable alternative to the model of language acquisition represented by Fodor and Lepore here. C.f. Chomsky, Noam. *Syntactic Structures*. The Hague, Paris: Mouton, 1957. Moreover, Wittgenstein’s notion of language-games (explained in the next chapter) can also be invoked to account for the theory of language acquisition based on an incremental procedure; one in which there is a middle ground between learning a language “in a single spasm of seamless cognition” and learning a language word by word, sentence by sentence, etc.

that nobody has thoughts that are tokens of the same type as my thought about Auntie's pen..." (Fodor & Lepore 13). Additionally, several cognitive scientists hold that certain animals' actions are the result of their desires and beliefs "*which subsume mental states in virtue of their intentional contents*" (Fodor & Lepore 14). Fodor & Lepore think that these sorts of considerations suggests that there can no longer be any robust, counter-factual supporting intentional generalizations, "none that is ever satisfied by more than an individual at an instant" (Fodor & Lepore 15). Consequently, they claim that this would be greatly detrimental to any attempt at providing a scientific theory of rationality because it would depend on whatever is "topic-dependent and interest-relative"; namely, its holistic character (Fodor & Lepore 16). Fodor and Lepore's main point concerning intentionality is that maybe meaning holism may jeopardize the kind of metaphysical realism that is commonplace in the philosophy of science. On a brighter note, they also suggest that "if the 'constitutive principles' of intentional theories are ipso facto holistic in a way that those of the physical or biological sciences are not, then it may be that intentional explanations are ipso facto immune to a kind of reductive criticism with which the physical or biological sciences have sometime seemed to threaten them" (Fodor & Lepore 16). In other words, if interpretive and hermeneutic explanations, in virtue of their holistic character, are not in competition with theories in the empirical sciences, then the original problem in challenging the supremacy of metaphysical realism in the philosophy of science dissolves. This approach is suggestive of a Kantian strategy in which the intentional or the psychological provides the framework for the possibility of the other empirical sciences by way of transcendental argumentation. The moral of considering these implications for semantic holism, according to the authors, is that

meaning holism may not be compatible with a robust notion of content identity, or intentionality. And, if this is so, then, according to Fodor and Lepore, our ordinary understanding of ourselves and our communicative practices may be called into question.

3.3. A Holist's Burdens

These possible implications of meaning holism are sometimes mitigated by claiming that even if holism somehow excludes a strong notion of content identity, it may still permit a notion of content similarity. At first glance, the notion of similarity seems to capture how we actually communicate our concepts. For instance, we often proclaim that we share similar beliefs about particular issues with others. The authors consider the suggestion that “maybe this colloquial sense of ‘similar belief’ can be co-opted to provide for a robust formalization of intentional generalizations” (Fodor & Lepore 18). But, this appeal to similarity to replace the robust notion of content identity leaves the issue unresolved for the following reason. If I say that I share similar beliefs about the access to education with a fellow graduate student, I can claim that I believe that P (women and men should have equal access to education), Q (people of all income levels should have equal access to education), and R (Canadian institutions should limit or closely monitor corporate investment in universities) and my peer believes P, Q, R and S (Quebec institutions need to increase tuition fees for the maintenance of a high quality of post-secondary education or find other sources of investments). In some ways, we have similar beliefs, i.e. P, Q and R, excluding S. Another understanding of similarity would be to say that I believe P, Q, and R very strongly to the extent that they are principles on which all other policies should be based and the ongoing struggle to maintain them is essential in

retaining the integrity of the educational system; whereas my colleague thinks these claims are important ideals to which we should aspire, but other economic concerns precede them. But, the problem with semantic holism is not concerned with believing $\frac{3}{4}$ of a set of beliefs concerning any particular issue, or with believing certain beliefs like P, Q and R more or less strongly than another person. The issue is to make sense of what is meant to say that I share similar beliefs with another graduate student. Fodor & Lepore make explicit that “the colloquial senses of ‘similar belief’ presuppose some way of counting beliefs, so they presuppose some notion of belief identity” (Fodor & Lepore 18). And, because the notion of content similarity presupposes the notion of content or belief identity, it cannot be a viable option to replace the notion, or the requirement of identity, with the concept of similarity. Fodor and Lepore argues; “The problem isn’t, notice, that if holism is true, then the conditions for belief identity are hard to meet; it’s that, if holism is true, then the notion of ‘tokens of the same belief type’ is defined *only* for the case in which every belief is shared. Holism provides no notion of belief-type identity that is defined for any other case and no hint of how to construct one” (Fodor & Lepore 19).

Another possible solution to overcome the notion of content or belief identity is to claim that beliefs themselves do not require a robust notion of identity. Perhaps all that is needed is that similar beliefs, for the most part, share the same inferences. But, again, this presupposes a robust notion of identity of inference, because the notion of similar inferences would lead to the same consequences as the above example concerning similar beliefs. Additionally, Fodor & Lepore point out another problem with claiming the need for a similarity in the inferential capacities of beliefs. That is, they claim that some

inferences must count more than others. The reason for this claim is that the authors believe that making any particular inference about a belief cannot be constitutive of having that belief. They make their point, asking; “does believing that Mars is red count more or less for having the concept red than believing that tomatoes are? (Fodor & Lepore 21). Meaning holists, according to the authors, have no principled account of the similarity or identity of inferential capacity.⁸ As a result, they draw the following conclusion:

Intentional explanation needs a robust notion of belief identity, and meaning holism appears to prejudice the possibility of such a notion. You can’t get out of this just by appealing to a notion of *similarity of content*, because all the robust notions of content similarity – or, at a minimum, all the ones that spring to mind – *presuppose* a robust notion of belief identity and hence are themselves incompatible with holism if robust belief identity is (Fodor & Lepore 21-22).

Another possibility is to posit that beliefs can be identical if they participate in the same *analytic* inferences. Although Fodor & Lepore insist, “Strictly speaking, this way of squaring content holism with a robust notion of belief similarity might surely be accused of begging the question, since, once again, it appears that a robust notion of accepting the same inference (hence a robust notion of same inference) is being taken for granted” (Fodor & Lepore 22), This consideration nonetheless leads the authors to discuss the implications of invoking the analytic-synthetic distinction.

3.4. Revisiting Two Dogmas

In the chapter entitled, *W.V.O Quine: Meaning Holism and Confirmation Holism*, Fodor and Lepore discuss the assumptions about meaning holism present in Quine’s 1951

⁸ I am not sure that Fodor & Lepore are being fair when they presuppose that all inferential capacities originating from a particular belief, or thought, must be realized in order to be meaningful (Fodor & Lepore 21).

paper, *Two Dogmas of Empiricism*. The authors' basic position is that: "meaning holism can be resisted even assuming – as we are inclined to do – that most of what 'Two dogmas' says about the holism of confirmation is right-headed" (Fodor & Lepore 37). The authors divide Quine's paper into two sections; the first part includes sections 1-5 in which Quine presents an argument that rejects the distinction between analytic and synthetic propositions and the possibility of reductionism. They argue; "By definition, a reductionist holds that the confirmation conditions for a statement are knowable a priori, because they are among the statement's *analytic* implications. Quine thus takes anti-reductionism to be an immediate consequence of abandoning the a/s distinction." (Fodor & Lepore 37-38). If no distinction can be made between analytic and synthetic claims, then all confirmation relations are known a posteriori. In other words, they consist in contingent knowledge, since Quine took the concepts of a posteriori and contingent to be co-extensive. So, the moral of the first section of *Two Dogmas*, according to Fodor and Lepore, is that confirmation holism becomes the consequence of assuming that there is no analytic-synthetic distinction. As Quine asserts, "Our statements about the external world face the tribunal sense experience not individually but only as a corporate body" (Quine, *Two Dogmas of Empiricism* 47).

Contrary to much of the previous criticism directed towards Quine's paper, the authors intend to take for granted Quine's argument that any principled distinction between analytic and synthetic claims is untenable and concentrate on its implications for semantics and the thesis of meaning holism, in particular. Their assumptions here presuppose a certain interpretation of the analytic-synthetic distinction and lend support to Oberdan's historical portrayal of the correspondence between the Vienna Circle and

Einstein. In section 6 of Quine's paper, Fodor and Lepore think Quine was providing a pragmatic way to approach the implications of confirmation holism for the philosophy of science. They are not as ready to accept Quine's pragmatist standpoint as they are his rejection of the analytic-synthetic distinction and the truth about confirmation holism because Quine's pragmatic implications are largely independent from the semantic issues which they are concerned with. So, according to Fodor and Lepore, it may be possible to have a non-reductionist pragmatism. That is, there is no internal connection between reductionism and pragmatism. Moreover, Fodor and Lepore argue that confirmation holism does not necessarily entail pragmatism. In fact, a confirmation holist can be an ontological Realist. "The reason is this: from the realist perspective, *what confirms what* is a matter, not of linguistic convention, but of what is actually (for example, causally) connected to what's *in the world*" (Fodor & Lepore 39). But, if this is the case – that our confirmation relations depend on what is in the world – then it would seem that our knowledge of these relations is a posteriori.

However, Fodor and Lepore insist that Quine must have been presenting a stronger thesis about meaning. They cite what they believe to be an exceptionally holist semantic thesis in *Two Dogmas*, where Quine writes:

The idea of defining a symbol in use was, as remarked, an advance over the impossible term-by-term empiricism of Locke and Hume. The statement, rather than the term, came with Frege to be recognized as the unit accountable to an empiricist critique. But what I am now urging is that even in taking the statement as unit we have drawn our grid too finely. The unit of empirical significance is the whole of science (Fodor & Lepore 40; Quine, *Two Dogmas of Empiricism* 48).

They offer three reasons for thinking that this is a semantic thesis, rather than simply an admission of holism about confirmation. First, the reference to Frege in the passage

indicates a semantic thesis because Frege undoubtedly dealt with units of meaning in his philosophy. Secondly, and perhaps quite superficially, *Two Dogmas* is often considered as the starting point for the tradition of semantic holism. Thirdly, and more substantially, since Quine takes reductionism to be both a semantic and an epistemological doctrine in *Two Dogmas*, it seems likely that its denial will also be founded on semantic and epistemological bases.

If these three considerations are convincing enough to think that Quine was making claims about both confirmation holism and semantic holism, an immediate question should arise concerning the connection between these two theses. The conventional, and somewhat most obvious, understanding would be to say that Quine is a verificationist. That is, he thinks the meaning of an assertion arises from its method of confirmation. “Conventional wisdom is that, if you put verificationism together with the Q/D thesis, you get semantic holism and that *that* is the argument for semantic holism that Quine intends in ‘Two dogmas’” (Fodor & Lepore 41). If that is in fact the argument intended by Quine in *Two Dogmas*, then Fodor and Lepore argue it is a fallacious one. Hence, meaning holism would not be proven to follow from Quine’s rejection of the analytic-synthetic distinction.

The assumed verificationist argument for meaning holism is the following:

The Q/D thesis says that confirmation is holistic; that is, that every statement in a theory (partially) determines the level of confirmation of every other statement in the theory. Verificationism says that the meaning of a statement is determined by its confirmation relations. The invited holistic inference is that every statement in a theory partially determines the meaning of every other statement (Fodor & Lepore 41-42).

Fodor and Lepore offer a metaphor of semantically salient nodes within a network to better illustrate the consequences of this argument. A theory is like a network in which

the semantic symbols are nodes and the meaningful relations among the statements are the pathways. The meaning of a symbol or statement is determined from its position within the network and is defined with respect to its relation to both the other nodes and pathways. A consequence is that any change in the theory, whether the change concerns the nodes or the pathways, changes the significance of every element within the network. Therefore, only completely identical theories or networks can share common entailments. Fodor and Lepore think that this cannot be what Quine had in mind; “This claim would seem literally unintelligible barring the notion of trans-theoretic statement identity of precisely the sort that semantic holism appears to preclude” (Fodor & Lepore 42).

Moreover, Fodor and Lepore argue that the observation sentences in confirmation relations must be trans-theoretically identifiable in order to preserve the publicity criterion of scientific confirmation. In other words, observation sentences must occupy an independent role within confirmation and be identifiable in order to give reason to prefer one theory over another theory. Their significance cannot depend on the theory. But, at the same time, they have to enter in some kind of confirmation relation with other sentences in order to confirm something. Quine’s argument has it that the observation sentences, because they enter into confirmation relations with other sentences, share a confirmation relation with every other sentence in the theory. If these relations are constitutive of semantic significance, then two theories with different entailments will disagree about which observation statements are true.

Still, Fodor and Lepore want to argue that even if we accept both confirmation holism and verificationism, semantic holism may nonetheless be refuted (Fodor & Lepore 43). In order to prove this, they consider an argument that would show that a theory or

language could not contain only one semantic unit or statement, e.g. 'it's raining' (Fodor & Lepore 44). The argument would be the following:

Premise 1: The statement that it's raining (R) is partially confirmed by the statement that the streets are wet (S).

Premise 2: Confirmation relations are ipso facto semantic.

Premise 3: Statements are individuated by their semantic properties; or, as we will sometimes say, they have their semantic properties essentially.

Lemma: R is individuated, inter alia, by its relation to S.

Conclusion: Any theory that contains R must contain S. A fortiori, no theory could contain just R (Fodor & Lepore 44).

The authors believe that the problem with this argument is that the appearance of preserving validity rests on avoiding a precise definition of what a *statement* is. So, they consider three possible understandings of a *statement*.

The first possibility is to take statements to be formulas, i.e. "they are morpho-syntactically individuated expressions which have both their semantic properties and their linguistic affiliations *contingently*" (Fodor & Lepore 45). This means that any single statement can have several different meanings and can occur in several different languages. The first problem with this account is that formulas do not have their semantic properties essentially and, as such, they encounter a second problem because they do not (can not) enter into confirmation relations. Confirmation relations depend not on the form of words but on empirical considerations. Thirdly, Fodor and Lepore think that to equate statements with formulas is to contradict or trivialize Quine's argument that if confronted with noncompliant observational data, you may still hold onto any sentence and make adjustments elsewhere in your theory instead. Consequently, this Quinean "analysis of experimental confirmation turns upon the thought that one might *give some hypotheses* (the auxiliary ones) while *holding onto others* (the experimental ones). But this

formulation appears to presuppose exactly what semantic holism denies: that there can be a principled, trans-theoretic way of individuating statements, hypotheses, and the like” (Fodor & Lepore 46). In other words, semantic atomism must be presupposed to make confirmation holism and the theoretical adjustments mentioned above possible. But, one can still claim that hypotheses are formulas and, because formulas do not have their meanings essentially, we can still find a way to individuate these units trans-theoretically that is consistent with semantic holism. This compromise also fails because if hypotheses or statements were to be individuated solely on the form of words, it would leave them epistemologically (and probably significantly) uninteresting and trivial. So, it seems unlikely that the assumed argument for meaning holism in Quine’s paper should be read as equating statements with formulas.

A second option would be to understand statements as propositions, i.e. “statements are trans-theoretical (trans-linguistic entities, entities that can be expressed by the formulas of more than one theory” (Fodor & Lepore 48). This also means that statements have their conditions of semantic evaluation necessarily. One problem with this understanding, according to Fodor and Lepore, is that Quine seems suspicious of language-independent meaning so he probably would not readily accept a conception of statements as propositions. Another problem is that if statements are propositions then propositions must be the units of meaning individuated by reference to their contents. This is the case if we take Peirce’s thesis (the second premise) to be right; namely, that confirmation relations constitute semantic identity. Consequently, if two theories have different entailments, the observation statements which are considered true will also vary. But, Fodor and Lepore have repeatedly argued that observation sentences must somehow

occupy a trans-theoretical independence for them to be meaningful, i.e., to confirm *something*, in a theory. “If contents are means of confirmation,” as Fodor and Lepore argue, “then statements have their means of confirmation essentially. But the Q/D thesis is (inter alia) the idea that statements have their confirmation conditions *contingently*” (Fodor & Lepore 49-50). Therefore, statements cannot be taken to be propositions because this contradicts Quine’s position that confirmation relations are contingent and a posteriori.

A third option would be to consider statements as formulas combined with the conditions of semantic evaluability, i.e. “the conditions of semantic evaluation supervene on confirmation relations” (Fodor & Lepore 50). The initial problem with this option is that if confirmation relations are revisable within a theory and, at the same time, they are the basis of semantic evaluation, then the statements themselves would not have the semantic properties essentially. Moreover, in order to infer meaning holism from confirmation holism, it seems you would need to equate the meaning of a statement within a theory to what that entire theory reveals about the confirmation relations of that statement. This seems to be an unlikely option, according to the authors. So, then, it would seem that all the possible understandings of a statement fail and the argument from confirmation holism to meaning holism must be unsound. Thus, Fodor and Lepore argue that the problem in Quine’s paper runs deeper than legitimate doubts about verificationism. Rather, they claim, it is a fallacy of equivocation:

The strategy we’ve been attributing to ‘Two dogmas’ is to infer semantic holism from confirmation holism. In order to do so, it must take for granted that the X’s that enter into confirmation relations (in particular, the X’s to which the Q/D thesis applies) are the very same X’s that semantic theories are about; they’re the very same things whose conditions of semantic evaluation semantic theories specify. The trouble is, however, that whereas the natural object of semantic

interpretation are linguistic entities like formulas, the natural bearers of confirmation relations are trans-linguistic entities like propositions. So, even though confirmation holism is quite likely true, and even though verificationism is assumed for the sake of argument, there is no sound inference from those premises to semantic holism, because confirmation holism and verificationism are true *of different things* (Fodor & Lepore 53).

To be consistent with Quine's rejection of a principled differentiation between the analytic-synthetic distinction, the only thesis that cannot be espoused is the following:

"Some inferential relations are constitutive of semantic relations, and which they are can be determined by applying an epistemic criterion like aprioricity or unrevisability"

(Fodor & Lepore 58). The implication of such a conclusion is that both meaning holism and reductionistic atomism (like Carnap's early position) remain open possibilities.

3.5. *Alternative Avenues*

Initially, Fodor and Lepore consider the idea that the semantically significant unit in a language is to be found in an entire sentence or statement, rather than a word. If it is the case that the unit of meaning is to be found in such a composition of lexical constituents, then it may not take much more to hypothesize that meaning is dependent on entire theories or languages. They take this idea from Quine's reference to Russell's notion of incomplete symbols as definitions in use (Quine, *Two Dogmas of Empiricism* 48). But, Fodor and Lepore still maintain that "in fact, it's not clear whether the presumed facts about definitions-in-use warrant *any* claim about *meanings*" (Fodor & Lepore 55). Whether certain terms are defined according to their sentential context, as Russell argued, does not determine which aspects of these contexts the terms are related to and in what way they depend on the contexts. "In particular," Fodor and Lepore argue, "it depends on whether words that are defined in use are ipso facto defined relative to *semantic*

properties of their contexts” (Fodor & Lepore 55). The authors make an important distinction here between *semantic* properties and *syntactic* properties. For example, the word *request* may have one meaning in a particular sentence; *I have filed a request for compensation* and another meaning in another sentence; *I request some form of compensation*. Notice, however, the meaning of the two uses of *request* depend not on the sentence as a unit of meaning, but on the sentence as the unit of syntax, in which *request* in the first sentence is a noun and, in the second sentence, a verb. In that sense, it seems true to say that the term *request* would not have the *syntactic* property it has independently from the sentence in which it is found. Fodor and Lepore want to bring attention to the fact that perhaps the unit of syntax and the unit of meaning are not necessarily identical or that syntactic properties and semantic properties are not coextensive.⁹

In addition to the arguments presented by Fodor and Lepore against the viability of semantic holism in *Two Dogmas*, the authors also wish to bring attention to the weaknesses in other areas of Quine’s rebuff of the so-called dogmas of empiricism. In particular, they insist that Quine’s dismissal of any sort of distinction between analytic and synthetic statements has been premature and incomplete. They claim that even if Quine was right about the lack of any clear difference between analytic and synthetic statements, it does not follow from such circumstances that we must accept any particular theory of meaning. If semantic holism turns out to be an inadequate theory of meaning, then, it will have little to do with the idea that statements which are analytically related to

⁹ It will become evident in the next chapter that I do not find Fodor and Lepore’s distinction between semantic properties and syntactic properties entirely convincing. C.f. Austin, J.L. “The Meaning of a Word” in *Analyticity: Selected Readings*. James F. Harris, Jr. & Richard H. Severens (eds.) Chicago: Quadrangle Books, 1970, 122-130.

a specific claim must be constitutive of the meaning of that claim. From these deliberations, Fodor and Lepore conclude, “It’s perfectly possible to be eliminativist about an *epistemologically based a/s* distinction but not about semantics as such and, indeed, not about the *a/s* distinction as such” (Fodor & Lepore 56). So, perhaps Fodor & Lepore’s argument can make room for alternative approaches (including a Wittgensteinian one) to the analytic-synthetic distinction. Interestingly, Fodor and Lepore follow up by proclaiming:

We take it that, strictly speaking, Quine in “Two Dogmas” did *not* show, or even argue, that there are no semantic facts, or even that there are no analytic truths. Rather, what we are conceding is that if there *is* sense to be made of meaning and the associated notions, it can’t be reconstructed by reference to *statements that a speaker assents to*. Or, equivalently for these purposes, if Quine is right in “Two dogmas,” then what you mean can’t be reduced to what references you are prepared to assent to (Fodor & Lepore 57).

What Fodor and Lepore mean to emphasize concerning inferential commitments is that the inferences a person accepts when making a claim is not only dependent on the meaning she wishes to communicate, but also on how the non-linguistic world happens to be understood. And, according to the authors, “there is no principled way to separate the respective contributions of these factors” (Fodor & Lepore 57). If I know that my friend Katherine accepts certain inferences when she tells me *my cousin Marco is a bachelor* (namely, that Marco is an unmarried male), I cannot know, in any definite way, whether she accepts this inference to be *a priori*. Consequently, I cannot know with certainty which inference happens to qualify as analytic for her understanding of the meaning of *bachelor*. In the least, that is the strong connection between *a priori* and *analytic* which Fodor and Lepore attribute to Quine and which their argument seems to depend on. As a result, they rightly remark that Quine’s rejection of analytic statements is a “rejection

only of the possibility of an *epistemic* criterion for ‘true in virtue of meaning’” (Fodor & Lepore 57). Fodor and Lepore, therefore, leave open the possibility of presenting analyticity differently. If a new way of looking at synonymy/analyticity refrains from presenting any epistemic notion, then it would seem that it would not be in jeopardy from the sorts of considerations presented in Quine’s work. For example, they suggest that semantic properties may be reduced to resemblance (as Hume thought), to behavioural conditioning (as Skinner believed), or to nomological connections (as Dretske considered).

3.6. Conclusion

If Fodor and Lepore are right about the implications of semantic holism and that Quine’s rejection of a principled distinction between analytic and synthetic claims substantiate only confirmation holism, then perhaps it can offer some insight on how to understand the development of Carnap’s reductionist project. For example, Carnap was putting forth some kind of confirmation holism rather than meaning holism, but, at the same time, he attempted to somehow retain some kind of status for analytic statements; most likely through a combination of their logical form and their functional role in a theory or language. These analytic claims expressed through logical form could not, however, have been a priori in the traditional sense. Nonetheless, in so doing, the statements would gain their semantic value individually, i.e. atomistically, and negate semantic holism. Despite Fodor and Lepore’s seemingly passive acceptance of Quine’s insistence that there is no principled way to distinguish analytic statements from synthetic claims, we may still grant the possibility of analyticity. In the next chapter, I will argue

that perhaps another way to look at the possibility of fusing the analytic-synthetic distinction with meaning holism together is to re-interpret analyticity in such a way that the function of analytical judgments is prioritized over their logical form.

The task of the next chapter will be to offer a different notion of analyticity that is non-epistemic and perhaps not a priori, but instead accentuates the role or function of what we take analytic claims to be in the way which they contribute to establishing the meaning of a term, statement, or theory. In that way, the semantic evaluation of any term, statement or theory is dependent on the role it plays on the whole of our linguistic practices, practices which include the world and the community with which we participate in language games. If any distinction between analytic and synthetic claims can be rescued from Quine's attack, subsequently, it can be further considered whether such a distinction can be compatible with a semantic holist thesis and perhaps play a substantial role in theory structure and meaningful communication.

CHAPTER FOUR

An Alternative Understanding of Analyticity & Meaning Holism

4.1. Introduction

In the previous chapter, it was made explicit that Fodor and Lepore believed that even if there was no clear distinction between analytic and synthetic propositions, it would validate only confirmation holism and leave semantic holism untouched, or at least still open to criticism and doubt or affirmation and endorsement. Their arguments, while offering a possible interpretation of Carnap's later position and perhaps clarifying Oberdan's objection to Howard's historical portrayal, fail to eliminate all possible distinctions between analytic and synthetic statements and any positive account of analytic claims. Consequently, in this chapter, I will argue that an alternative way to interpret Oberdan's response to Howard and to understand in what way the analytic-synthetic distinction may be compatible with meaning holism is to prioritize the functional role of analytic statements within a context over their logical form. This approach suggests a Wittgensteinian interpretation of analyticity, in which analytic statements are grammatical propositions within a specific language-game that allow us to make meaningful inferences. I will first present Wittgenstein's theory of meaning and his considerations on meaningful communication presented in the *Philosophical Investigations* and certain interpretations of the implications of these views. I will then explain how such an understanding of meaningful communication can be appropriated to offer an alternative interpretation of analytic statements. Finally, I will outline how this fresh understanding of the difference between analytic and synthetic sentences may be compatible with semantic holism. Such a position may lead to an understanding of

analyticity that can be suitably included in a holist thesis and offer a viable alternative to Quine's insistence that there is no need for any notion of analytic claims in language or theory.

4.2. Wittgenstein's Language Games

In the *Philosophical Investigations*, Wittgenstein presents a unique theory of meaning which depends on other philosophical considerations, such as the notion of language games, the notion of rule-following and the possibility of a private language. First, Wittgenstein contrasts his view of meaning with Augustine's correspondence theory of meaning. According to Augustine's conception, language has a direct correspondence with reality. In this sense, the names of things are directly associated with actual objects. To understand the meaning of a name or a word is to understand the intention of the people who used those names or words before us. At least, that is how a person acquires language. Wittgenstein understands Augustine's portrayal of language to be "a particular picture of the essence of human language. It is this: the individual words in language name objects – sentences are combinations of such names. – In this picture of language we find the roots of the following idea: Every word has a meaning. This meaning is correlated with the word. It is the object for which the word stands" (Wittgenstein, *Philosophical Investigations* §1). This passage from the *Philosophical Investigations* reveals that Augustine was presenting an atomist, picture theory of meaning. Interestingly, Wittgenstein goes on to say that while Augustine's picture theory of meaning may offer a description of some kind of system of communication, this system falls short of accounting for the dynamic nature of human language (Wittgenstein,

Philosophical Investigations §3). A problem with the picture theory of language lies with the interpretation of ostensive definitions. Wittgenstein argues that these definitions remain unclear because it is always possible that a person misinterprets what the sign or word is meant to refer to. For example, a person can point to a moving car and exclaim *that's red* or *that's fast* or *that's small*. The way we know that these statements have different meanings is due to language games. A language game depicts the use of language within a context, or, in other words, the ability to understand and apply rules in a social setting. "The term 'language-game' is meant to bring into prominence the fact that the *speaking* of a language is part of an activity, or of a life-form" (Wittgenstein, *Philosophical Investigations* §23).

In response, Wittgenstein presents a positive theory of meaning in §43, where he writes: "For a *large* class of cases – though not for all – in which we employ the word 'meaning' it can be defined thus: the meaning of a word is its use in the language" (Wittgenstein, *Philosophical Investigations* §43). This idea has been labelled the meaning-as-use theory. Wittgenstein refers to the "essence" of language as "family resemblance," emphasizing the fact that the meaning of words and propositions are related to one another in many different ways; "we see a complicated network of similarities overlapping and criss-crossing: sometimes overall similarities, sometimes similarities of detail (Wittgenstein, *Philosophical Investigations* §65-67). The boundlessness of language can be analogous to building a city. It is absurd to think there is a clear, exact point where a language, like a city, can be said to be complete. It is in this sense, then, that the only way to understand what a name or a word refers to is to understand it within a language game. That is, it makes no sense to call natural languages

complete (or incomplete), just as it makes no sense to call a city complete (or incomplete).

Another analogy with playing a game and the implied rule-following considerations found in the *Philosophical Investigations* further supports Wittgenstein's theory of meaning. To begin with, Wittgenstein believed that philosophy was meant to correct and clarify semantic confusions. So, if language is like a game we learn to play, then it would seem insightful to offer an account of what is meant by playing a game and how we come to understand and follow the rules of the game. What is common to all different sorts of games, like board games, card games and hockey games, according to Wittgenstein, is that they share certain similarities and relationships. For example, some games, like tennis, share the notion of competition between players resulting in a win or a loss, while others, such as playing Frisbee with your pet, share the goal of simple amusement. Other games share some balance of skill and luck. Because we can continue to list different properties commonly found in games ad infinitum, it should become clear how we ought to define the concept of *game* to others. However, Wittgenstein claims we cannot clearly *define* this notion, but rather we must attempt to *describe* what we mean by the word "game". At the end of our description, we would feel the need to state that, in addition to our description, with all the commonly found properties we have enumerated, there are other similar things that may also count as *games*. We have not delineated a definite boundary around our concept of *game*, but none are required, according to Wittgenstein, to make the concept, or word, "game" usable, and thus meaningful, in our communicative practices.

Furthermore, Wittgenstein argues that to follow a rule or formula means to follow it blindly (Wittgenstein, *Philosophical Investigations* §219). That is, we do not choose, at least not by ourselves, to follow a rule. Wittgenstein is concerned with the grammar involved in the expression *to obey a rule*. He writes:

It is not possible that there should have been only one occasion on which only one person obeyed a rule. It is not possible that there should have been only one occasion on which a report was made, an order given or understood; and so on. – To obey a rule, to make a report, to give an order, to play a game of chess, are *customs* (uses, institutions). To understand a sentence means to understand a language. To understand a language means to be master of a technique (Wittgenstein, *Philosophical Investigations* §199).

The implication of this passage is found in §201 where Wittgenstein addresses the apparent paradox of the idea of following a rule; “no course of action could be determined by a rule, because any course of action can be made out to accord with the rule” (Wittgenstein, *Philosophical Investigations* §201). This is directly linked to the other philosophically salient consideration about the possibility of a private language.

4.3. Kripke's Wittgenstein & Private Language

For reasons of clarity and brevity, I will concisely sketch out Kripke's interpretation of Wittgenstein supposed paradox found in §201, which I think to be, for the most part, accurate and helpful. In *Wittgenstein on Rules and Private Language*, Kripke presents what he takes to be the main skeptical paradox in the *Philosophical Investigations* and suggests a correspondingly skeptical solution. That is, he thinks that Wittgenstein accepts the skeptic's premise that there is nothing in our minds that constitutes a fact about what we mean, i.e. there is no fact of the matter about any speaker considered in isolation. In fact, meaning arises simply when there is agreement within a

community (referred to as “the community view”). Consequently, there can be no such thing as a private language.¹⁰

Kripke claims that Wittgenstein’s paradox about private language occurs in §201 of the *Investigations*, quoted above. So, in other words, unless there is something that is innate, rules are learned from a finite set of examples. It is assumed, however, that any given rule can be applied to an infinite set of situations. Kripke delineates this skeptical problem in concrete terms by using an example in arithmetic. For instance, if questioned about ‘68+57’, we would apply the rule of addition (i.e. we would interpret ‘+’ to mean *plus*) and give ‘125’ as the correct answer. Kripke thinks a bizarre skeptic would question the certainty with which we give this intuitive response. That is, even though in the past we applied the function of addition to solve certain problems of arithmetic, there is nothing that follows from these past applications that we should apply the same function to present or future problems. Kripke’s skeptic claims that it could be the case that we apply the function of *quaddition* (i.e. $x \text{ quus } y = x + y$, if $x, y < 57$; $x \text{ quus } y = 5$, otherwise) rather than the function of addition and give ‘5’ as the answer to ‘68+57’. Kripke admits that this skeptical objection seems radical and even ridiculous, but it is not logically impossible. Kripke explicates; “Wild it indubitably is, no doubt it is false; but if it is false, there must be some fact about my past usage that can be cited to refute it. For although the hypothesis is wild, it does not seem to be a priori impossible” (Kripke 9).

¹⁰ Critics of Kripke’s skeptical solution, such as Summerfield and Blackburn, claim that the rejection of the possibility of a private language rests on a misunderstanding of Wittgenstein’s argument (although, Summerfield does defend a community view of meaning). Additionally, Kripke’s critics fear that his skeptical solution presents a serious problem in the philosophy of language, i.e. that there are no longer any clear and definite criteria for meaning. However, I think that Kripke’s interpretation of Wittgenstein, in favour of an assertion-conditional semantics, does not fall to these arguments. For criticism of Kripke’s interpretation, c.f. Baker, G., & Hacker, P. “Critical Study: On Misunderstanding Wittgenstein: Kripke’s Private Language Argument,” in *Synthese* 58, 1984; Blackburn, Simon. “The Individual Strikes Back,” in *Synthese* 58, 1984; Summerfield, Donna M. “Philosophical Investigations 201: A Wittgensteinian Reply to Kripke,” in *Journal of the History of Philosophy* 28:3, 1990.

This fact about our past usage of the function of addition turns out to be quite elusive, according to Kripke.

Here, Kripke clarifies the skeptical problem by separating it into two distinct challenges to our intuitions. First, the skeptic is bringing into doubt whether there is any fact about our meaning *plus* rather than *quus* when applying the function of addition to new examples. This challenge coincides with Wittgenstein's worries about interpretation at the end of §201, where he writes:

It can be seen that there is a misunderstanding here from the mere fact that in the course of our argument we give one interpretation after another; as if each one contented us at least for a moment, until we thought of yet another standing behind it...Hence, there is an inclination to say: any action according to the rule is an interpretation. But, we ought to restrict the term 'interpretation' to the substitution of one expression of the rule with another (Wittgenstein, *Philosophical Investigations* §201).

Accordingly, Kripke defines our use of addition recursively. For example, the algorithms that we use as rules for addition are arbitrary. If we take $(\forall xy)[x+(y+1)] = [(x+y)+1]$ as our rule for addition, it's always logically possible to reinterpret the universal quantifier as depicting a certain limit in accordance with the function of *quaddition*. Giving more elaborate rules to interpret rules is simply a regression. So, in principle, there is no difference between appealing to our past use of addition or a more elaborate algorithm.

Secondly, Kripke questions whether it is right to base certainty of our present response to '68+57' on our past usage of addition. Because rules are derived from a finite set of examples, it is questionable whether these same rules can have infinite application. Kripke claims that, as a result, "an answer to the skeptic must satisfy two conditions. First, it must give an account of what fact it is (about my mental state) that constitutes my meaning plus, not quus. But, further, there is a condition that any putative candidate for

such a fact must satisfy. It must, in some sense, show how I am justified in giving the answer '125' to '68+57'" (Kripke 11). So, if these two challenges are not convincingly answered, the skeptic seems justified in claiming that our responses to simple problems in arithmetic are arbitrary. The implication of the skeptic's problem is that the distinction between meaning and intending becomes senseless. That is, if there is no fact of the matter about the addition function which we used in the past, there can be no fact of the matter about it in the present either.

Kripke then investigates whether an appeal to our dispositions to give the sum of the two numbers as the appropriate response when faced with '68+57' can retain the distinction between meaning and intention. The dispositional account, according to Kripke, misconstrues the skeptic's paradox because it attempts to go beyond the finite set of examples in which we apply any given rule. Even an amended description of our dispositions (i.e. an 'all things considered' caveat) does not answer Kripke's skeptic. Whether we can or cannot give the sum of two numbers that are too large to actually carry out during our lifetime is a practical problem and, for this reason, is irrelevant to the paradox in question. The appeal to dispositions is immediately circular because it presupposes that we mean *plus* when we give '125' as the answer to '68+57'. Kripke explains:

If the dispositionalist attempts to define which function I meant as the function determined by the answer I am disposed to give for arbitrarily large arguments, he ignores the fact that my dispositions extend to only finitely many cases. If he tries to appeal to my responses under idealized conditions that overcome this finiteness, he will succeed only if the idealization includes a specification that I will still respond, under these idealized conditions, according to the infinite table of the function I actually meant. But then the circularity of the procedure is evident. The idealized dispositions are determinate only because it is already settled which function I meant (Kripke 28).

In this long passage, Kripke's main point is that any appeal to dispositions, those to account for the responses we provide as answers to problems of arithmetic for example, are merely descriptive. As such, the dispositional account falls short of explaining the normative element in our justificatory practices. Kripke dismisses the arguments appealing to dispositions, stating, "Computational error, finiteness of my capacity, and other disturbing factors may lead me not to be *disposed* to respond as I *should*, but if so, I have not acted in accordance with my intentions. The relation of meaning and intention to future action is *normative*, not *descriptive*" (Kripke 37). Kripke contends that the dispositional account fails to provide a justification for why our past use of the function of addition justifies our present use of that function - which is precisely what is needed to answer the skeptic's challenge. So, it would seem that any real response to the skeptic necessitates a reference to something from outside of our own mental states or processes. Here, Kripke's suggestion seems consistent with Wittgenstein's idea that meaning must be public (Wittgenstein, *Philosophical Investigations* §151-156).

Kripke's solution to the proposed skeptical paradox in Wittgenstein's *Philosophical Investigations* comes in the second chapter. Here, Kripke appeals to Hume's skepticism regarding the necessity of causality to better explain his position. Hume argued that "all our reasonings concerning causes and effects are deriv'd from nothing but custom; and that belief is more properly an act of the sensitive, than of the cognitive part of our nature" (Hume 183). Kripke claims that both the Humean and the Wittgensteinian problems are analogous in that they share the idea of a causal nexus in which the past use necessitates the same application to present or future use. This causal nexus is explained simply as an occurrence of custom. So, our inductive inferences are a

matter of convention. This idea seems to suggest a way out of the skeptic's cryptic conclusion that "there can be no such thing as meaning anything by a word. Each new application we make is a leap in the dark; any present intention could be interpreted so as to accord with anything we choose to do" (Kripke 55).

The solution, according to Kripke, entails a repudiation of classical realism in favour of a Dummettian form of anti-realism. Kripke claims that Wittgenstein would accept the skeptic's premise. That is, Wittgenstein would agree with the skeptic that there is no "superlative fact" about our minds that constitutes the meaning of the function of addition in advance of our response (Kripke 65). However, the skeptic's standards of justification are rejected altogether. In other words, the skeptical solution that Kripke attributes to Wittgenstein does not seek to refute the skeptic. Instead, Kripke accepts the skeptic's premise and attempts to justify our ordinary practices. To attempt to do anything more with our language leads to a philosophical confusion of meaning. Kripke writes; "A skeptical solution of a skeptical philosophical problem begins on the contrary by conceding that the skeptic's negative assertions are unanswerable. Nevertheless our ordinary practice or belief is justified because – contrary appearances notwithstanding – it need not require the justification the skeptic has shown to be untenable" (Kripke 66).

To make this clearer, Kripke claims that Wittgenstein provides the following conditions to determine meaning: (1) 'Under what conditions may this form of words be appropriately asserted or denied?' and (2) 'What is the role, and the utility in our lives of our practice of asserting (or denying) the form of words under these conditions?' (Kripke 73). These conditions signify an explicit rejection of a truth-conditional semantics. Instead, he presents a theory of meaning based on assertability or justification conditions.

So, if there are no truth-conditions, independent of our utterances, then legitimated assertions are those that occur under specified circumstances and, in asserting them under those circumstances, play a role in our lives. Kripke, therefore, thinks Wittgenstein has offered a theory of meaning that rejects the possibility of a private language. He argues, “It turns out that this role, and these conditions, involve reference to a community. They are inapplicable to a single person considered in isolation. Thus, as we have said, Wittgenstein rejects ‘private language’ as early as §202” (Kripke 79).

Kripke’s skeptical solution to the skeptical paradox offers a community view about meaning. In accordance with Wittgenstein, Kripke argues that there is no a priori paradigm of the way concepts ought to be applied that governs all forms of life (Kripke 105). The criteria we use to determine if someone is applying the function of addition to ‘68+57’ under this new semantic theory would be to apply the following conditional – “if one does not respond ‘125’ to ‘68+57’, then one does not mean *addition* by *plus*.” In other words, our criteria for meaning becomes the expectation that other people will agree with us and behave the way we do.

To sum up Kripke’s view on meaning, it is necessary to highlight two considerations. First, there is no static, robust fact of the matter about what we mean when we utter a sentence. And, secondly, we can only achieve meaning when we are part of a community that can correct, or guide, the practices of individuals. So, Kripke’s critics can question whether Kripke’s interpretation of the skeptical paradox in Wittgenstein’s *Investigations* is correct. Or, they can attack Kripke’s semantic theory for failing to offer clear standards for correctness.

4.4. Luntley – Grammar as Perspective

The latter criticism can be addressed by considering how this notion of meaning can have further implications if it is extended to the notion of grammar. For example, in *Wittgenstein: Meaning and Judgement*, Michael Luntley argues that grammar is essentially perspectival, i.e., “...the conditions for the possibility of intentionality consist not in a body of theoretical knowledge, but in perceptual knowledge” (Luntley vii). In other words, Luntley is arguing that the subject, or the speaker, is a real, indispensable part of the world and, as such, contributes to the meanings we come to agree on. The notion of intentionality involves the idea of a subject having a point of view. It comprises the conditions for the possibility of judgment. Luntley states that “Wittgenstein’s central insight is that intentionality can only be made sense from within a conception of a self with an attitude to the world, an attitude which is that of a will – an agent” (Luntley 1). Such a self-conception involves an organized system of representation that must be intended.

To defend this understanding of a crucial component of meaning, Luntley argues against animatory theories of meaning. The idea behind animatory theories of meaning is that signs, whether some type of inscription or sound, do not create any meaning themselves. They must be *animated* in order to convey any meaning. Such theories lead to a bipartism account of meaning in which meaning is divided into two components; the representational component and the rules, or patterns of use, that animate them. So, the semantic power of a sign, or a word, contains the sign’s representational power plus the sign’s inferential power. If this is the case, then, it becomes interesting to wonder whether these two components of meaning are mutually dependent, or whether one is more

primitive than the other. Luntley claims that to know the patterns of use of a sign is to know the grammar of that sign, i.e., “the systematic patterns of use that reveal the inferential connections between judgements formed with signs” (Luntley 3). It is misleading to suppose that all signs are names that can be treated as if their semantic power were exhausted by their representational power, since that would require an ontology admitting of a heterogeneous category of objects. For example, the claim that ‘ ____ loves ____ ’ cannot really be explained by claiming it is a representation of the relation ‘ ____ loves ____ ’ because, Luntley argues, that presupposes some knowledge of the grammatical patterns of use which dictate what kind of objects are to be placed in that relation and what order they must take up. Therefore, any account of intentionality that deals solely with a sign’s representational power is inadequate because that account would still need to include objects, such as relations, that have grammar built into them (Luntley 5-6). In other words, it already presupposes some inferential power. However, Luntley refrains from conceding that a sign’s inferential power, rather than its representational power, is primitive. Consequently, judgements can never stand alone in their truth-values. More importantly, they can never have an atomistic value of meaning. Luntley argues this point, writing:

It does not seem to make sense to suppose that an arrangement of signs could express a judgement that was true or false and yet there was no conception available of how the truth or falsity of the judgement bore upon other judgments... The way that judgements bear upon one another exploits the way they are composed of common components and the patterns of use governing the components (Luntley 3-4).

The patterns referred to in this passage are what the author calls *grammar*. Moreover, Luntley thinks there is an indisputable normative component within grammar. The

normative patterns of grammar are revealed by bringing attention to the fact that one has no choice but to accept that there are constraints on the use of signs.

Historically, animatory theories of meaning locate the source of grammar and semantic power in “Platonic heaven,” the speaker’s mind, or the speaker’s community. These three options are usually invoked to explain what polices our patterns of use. Luntley, however, argues that none of these are credible options. He thinks the most important lesson to learn from Wittgenstein’s philosophy is the rejection of any animatory accounts of meaning. The problem lies with the fact that many theories take the sign as the starting point of inquiry to establish a theory of meaning. It seems quite logical, then, to think that some account is needed to explain how the patterns of use of those signs are regulated. Luntley claims, “Animatory theories are motivated by bipartism about meaning in which meaning is characterized in terms of signs plus that which animates them, e.g. rules of grammar. It is the metaphysics of the second component that is puzzling, for it is that component that provides normativity to signs” (Luntley 9). But, Luntley argues that Wittgenstein’s insight is that the criteria of these normative patterns do not matter. Instead, a more interesting and sensible philosophical study would explore what these patterns are patterns of. According to Luntley, “the puzzlement about the metaphysics of normative patterns is resolved if we describe accurately what the patterns are patterns of” (Luntley 9).

The alternative account of meaning which Luntley attributes to Wittgenstein sees semantic symbols or properties as primitive signs-in-use. To defend this position, Luntley explains why the other three options for establishing the source of grammatical regulation are found to be lacking. First, the Platonic source of grammar is simply a case of

speculative metaphysics which posits an obscure entity that is supposed to police our patterns of use and thus poses metaphysical and epistemological problems. That is, “the Platonist purports to have an account of the source of grammar that really amounts to no more than a positing of the existence of grammar” (Luntley 10). As a result, any Platonic account either begs the question or is subject to regress. Secondly, the Cartesian source of grammar, i.e. the speaker’s mind, pertains mostly to a sign’s representational power. For example, this account would be consistent with Augustine’s portrayal of the acquisition of ostensive definitions in the *Philosophical Investigations*. At a transcendental level, the argument can be made that the capacity for signs to stand for things has its source in the capacity of the mind to make that meaning possible (Luntley 11). Luntley dismisses the idea of a sign being intrinsically representational as incoherent. Sole representational power without any inferential power and, hence, without grammar cannot amount to meaning. This is because, “grammar concerns the patterns of use for a sign that constitute its role in determining the truth-conditions of judgements in which it figures. This notion of grammar is irreducibly normative, for the patterns of use are patterns that constitute the idea of correctness/incorrectness, conditions for judgements in which the sign figures” (Luntley 13). Accordingly, any proper account of grammar will include the constraints of normativity and will remain independent of individual will. These two constraints are obviously problematic for the Cartesian model. And, thirdly, the community source of grammar is also redundant and begs the question, according to Luntley, for similar reasons. That is, the community view locates grammar within the way the individual language user will standardize her language use by setting it up against the use of her community. Luntley argues that this notion of language use is

inefficient because it simply delegates the source of individual sign deployment to that of other's sign use. It fails to explain just exactly what is supposed to animate, or regulate, these signs.¹¹

The result of these criticisms of animatory theories of meaning is the acceptance of symbols, as in signs-in-use, as the proper feature fit for semantic evaluation. Luntley attributes to Wittgenstein the idea that there is no possible resolution to the representationalist vs. inferentialist model. "The impossibility of bipartism about meaning amounts to a transcendental argument in favour of a unitary model of meaning, a model in which our account of sign use is not an account that stands in need of supplementation by something extra to animate signs" (Luntley 18). The implications of the idea of a semantic symbol as a sign-in-use is that grammar must be intrinsically perspectival in the sense that the agents of judgement must play a role in any adequate account of meaning. In playing this role, however, it does not mean that individuals determine how grammar functions. Rather, Luntley alludes to language users as adopting an attitude of judgement that, through our actions, makes use of these semantic symbols.

Luntley sees the idea that grammar is perspectival as a transcendental requirement; a "condition for the possibility of our discovery of things" (Luntley 21). As such, there can be no theoretical account of the source of grammar. It is something that is described rather than explained. The meaning of a sign does not depend on the sign itself but rather on use, or more precisely, on how we make use of it. But, this is not meant as a

¹¹ Luntley's argument against the community view seems analogous to Blackburn's criticism of Kripke's interpretation of Wittgenstein. That is, in *The Individual Strikes Back*, Blackburn argues that Kripke's dismissal of the private linguist is mistaken because Kripke's argument against the individual is equally damaging for the community. Blackburn's objections to Kripke's community view of meaning fail because he takes Kripke's appeal to the community as an answer to the skeptic's standards of justification. But, Kripke is quite explicit in his rejection of these standards (i.e. Kripke accepts the skeptic's premise).

reference to empirical subjects that participate in creating grammar. It is necessary to maintain realism about grammar in the way which it impinges on us. We cannot choose to follow grammar. Again, this position entails a rejection of the bipartite model of meaning. Luntley explains that “the second component that is supposed to provide the rules of usage for signs is itself represented by further signs” (Luntley 25). But, such an account seems to lead to a regress. As Wittgenstein notes: “if sign and thing signified were not identical in respect of their total logical content then there would have to be something still more fundamental than logic” (Luntley 25). So, if there is debate concerning how a certain set of signs represents what it does, no further set of facts will be able to satisfactorily settle the issue. If we start with primitive signs, we need further facts to explain the meaningful use of these signs. This further fact is either represented by an additional sign or it is revealed in a special occurrence, experienced by a subject, which accompanies the meaningful use of signs. According to Luntley, the first account leads to regress and the second is rejected by Wittgenstein. Luntley, therefore, makes somewhat of a Kantian move, stating; “We are left with the thought that the starting point of analysis of representation has to be signs-in-use, signs seen as having a grammar. Their possession of grammar is not however, a further fact to be represented. That signs have grammar is a condition for the possibility of systems of representation” (Luntley 25). That is, grammar is no longer something in need of explanation, but rather, it is the condition which makes meaning possible. So, a system of meaningful representation is only possible if we begin with the unitary model of symbols, signs-in-use, thus making the fact that signs stand in grammatical relations to each other the fundamental unit of semantic analysis (Luntley 27).¹²

¹² A possible objection to Luntley’s position is to invoke Fodor’s compositionality constraint. That is,

What is perhaps more revealing in Luntley's interpretation of Wittgenstein is his equation of grammar with syntax. He writes; "Signs come already structured by grammar. The fundamental unit of semantic analysis is not a bare sign, it is the fact that signs stand in grammatical relations to one another" (Luntley 27). So, to understand the relation between language and world, Luntley thinks we must look beyond the semantic theories which suggest either that the relation is a correlation of atomic parts, or that the connection is some kind of relation between forms of understanding. We must realize that propositions are structured complexes and this complexity is arranged by grammar. The elements of any given proposition are related according to grammar. Moreover, Wittgenstein is quite clear concerning the fact that we can never station ourselves outside of grammar in order to explain grammar; "What expresses itself in language, we cannot express by means of language" (Wittgenstein, *Tractatus Logico-Philosophicus* 4.121). However, Luntley thinks that this sort of ineffability of grammar is an overstatement. We should be content by emphasizing that grammar is perspectival. His point is to understand grammar in terms of the unity of inference rather than in terms of the unity of propositions. In order to accomplish such an understanding, a "fundamental attitude" is "metaphysically" required for the possibility of thought and judgement (Luntley 31).

linguistic representation (and cognitive capacity, more generally) requires an explanation of features like productivity and systematicity, i.e., how language-users can generate infinite correct sentences. C.f. Fodor, Jerry A. *Concepts: Where Cognitive Science Went Wrong*. Oxford: Clarendon Press, 1998. 94-100. To this, Luntley responds, "The requirement that propositions are composite does not on its own show how the truth of a proposition inferentially bears on others in virtue of its compositionality. The concept of grammar addresses that point. Grammar is the composite structure in virtue of which propositions are true or false and, thereby, in virtue of which their being true or false bears inferentially on the truth-value of other propositions... This means that we cannot say how 'aRb' represents that aRb, but we can show it by the way we use signs correctly. We can, of course, say that 'aRb' has a certain grammar. It contains a two-place relation plus two names, but to say this is to say something of the form, F('aRb'). It is not to state a general account of what grammar is, we can only represent grammar from within the grammatical forms we inhabit" (Luntley 29-30).

Luntley thinks that this “fundamental attitude,” i.e., an attitude of judgment, can ensure the dynamic quality of grammar.

If we accept Luntley’s transcendental, “no-priority” thesis concerning the connection between thought and reality, we are left with a metaphysical self, or a “subject with an attitude” – “an attitude of normative engagement” (Luntley 42). The normative engagement is shown through our use of grammar. In turn, our use of grammar is the condition for the possibility of meaningful communication. It is the communication of symbols which create meaning. In this sense, then, the community plays a role in semantic theory because there remains a necessary requirement of publicity. Luntley’s emphasis on grammar as that which regulates semantic symbols, i.e., signs-in-use, together with Kripke’s interpretation of Wittgenstein’s rule-following considerations leads to the emergence of a hybrid theory of meaning. That is, meaning emerges from a holistic conception that is imposed by grammar within a specific, non-private language-game (or forms of life, as Wittgenstein calls them).

4.5. Garver – Analyticity as Grammatical Propositions

This position which locates meaning in a holistic, dynamic setting may be appropriated to interpret the distinction between analytic and synthetic statements, which was so quickly discarded by Quine in *Two Dogmas of Empiricism*. In order to maintain the possibility of such a distinction, it is necessary to offer an account of analytic statements. But, rather than focusing on the logical form that allows us to recognize analytic claims, Newton Garver explores the roles such claims have in understanding.

In *This Complicated Form of Life: Essays on Wittgenstein*, Garver, in the same vein as Luntley, argues that Wittgenstein substituted grammar for logic as the proper basis of philosophical inquiry, especially in his later work. That is, “[grammar] provides the basis for critical criteria, since grammar describes norms for language use” (Garver, *This Complicated Form of Life* xiv). Garver sees Wittgenstein’s efforts as continuing the critical tradition in philosophy exemplified by Kant. Kant recognized the futility of the rationalist-empiricist dogmas and tried to show that synthetic a priori judgements contribute to knowledge. Such judgements have a regulative, never a constitutive use. Moreover, Kant’s philosophical project seemed to take a certain form of realism for granted: “Everyone who has read Kant knows that he gives an imposing analysis of knowledge, but it is less frequently noted that he gives no analysis whatsoever of the objects of which he assumes we have such knowledge” (Garver, *This Complicated Form of Life* 9). Wittgenstein, as well, takes certain patterns of human behaviour for granted. He calls these “language games”. Making grammatical remarks is one of the complex language games. Wittgenstein, therefore, uses grammar as the basis for his critical criteria for meaning. Garver also mentions another revealing parallel in the philosophical methods of Kant and Wittgenstein: “Both insist that there are some unassailable propositions (tautological, grammatical, analytic) which do not constitute genuine knowledge. Both embrace a kind of semantic or epistemic holism, taking judgments or propositions or ‘uses of language’ as the basic units of significant discourse” (Garver, *This Complicated Form of Life* 17).

As for analytic statements, Garver takes his departure from Kant’s treatment of analyticity. Kant considered several criteria for establishing analytic propositions,

including containment, identity, contradiction, the way in which we come to know the particular judgement, and the function or role of the judgement in question. Garver suspects that “the explication achieved by an analytic judgement is very like the explication achieved by what Wittgenstein called a ‘grammatical’ proposition” (Garver, *This Complicated Form of Life* 20). Thus, Kant’s distinction would become a pragmatic consideration. In taking a closer look at these criteria, Garver finds them to be incomplete in order to fully explain analytic claims.

First, Garver argues that the problem with the criterion of containment is that many concepts do not possess clear boundaries. He explains, “The concept of containment loses its clear dichotomous character whenever the putative container either lacks sharp boundaries or has boundaries that an object can straddle” (Garver, *This Complicated Form of Life* 22). In other words, Kant must have thought all concepts have clear, distinct boundaries in order to judge whether a concept is contained in another. This is the only way the criterion of containment can be a definitive measure of analyticity. However, that theory of concepts does not seem adequate.¹³ The criterion is thus rejected as nothing more than a rhetorical tool to identify so-called “analytic” claims.

Secondly, the criterion of identity is explained by Kant as the connection between the predicate and the subject. That connection is a relation of identity. Garver thinks that

¹³ For instance, proponents of the “classical theory” of concepts deem that “most concepts (esp. lexical concepts) are structured mental representations that encode a set of necessary and sufficient conditions for their application, if possible, in sensory or perceptual terms” (Margolis & Laurence 10). This theory of concepts, which would need to include strict boundaries around individual concepts, runs into several problems; Plato’s problem, i.e., defined concepts; the problem of ignorance and error; the problem of conceptual fuzziness; and the problem of typicality effects. C.f. Katz, Jerrold. “On the General Character of Semantic Theory” in *Concepts*. Margolis, Eric & Laurence, Stephen (eds.) Cambridge: The MIT Press, 1999. 125-149, for an account of the “classical theory” of concepts, and; Putnam, Hilary. “Is Semantics Possible?” in *Concepts*. Margolis, Eric & Laurence, Stephen (eds.) Cambridge: The MIT Press, 1999. 177-187, for criticism of the “classical theory”.

Kant did not suppose that an analytic proposition is exactly the same as an identical proposition. But, there must be some kind of connection between the two. In *Preisschrift über die Fortschritte der Metaphysik*, Kant wrote:

A judgment is *analytic* if its predicate only sets forth clearly (*explicite*) what was already thought, albeit obscurely (*implicite*), in the concept of the subject... Analytic judgments are indeed *based* on identity and can be resolved into it; but they cannot *be* identical, since they require analysis and thereby contribute to the clarification of concepts, which would not be done at all if they were identical *idem per idem* (Kant 20:322; Garver, *This Complicated Form of Life* 23).

This passage from Kant suggests a concept is the same, in some sense, as the combination of its conceptual elements. Once again, this does not seem to provide a viable theory of concepts.¹⁴ The utility of Kant's first two criteria, containment and identity, are brought into question because they seem to presuppose analyticity. They may serve simply as symbolic representations of Kant's idea of analytic propositions.

The third criterion based on the principle of contradiction is problematic, according to Garver, because it seems to assume that contradiction applies to the relation between things or predicates, not the relation between propositions. Kant seems to have in mind a notion of conceptual contradiction rather than truth-functional contradiction (Garver, *This Complicated Form of Life* 29). The problem with the fourth criterion based on the way in which we come to know a proposition, i.e., the epistemological criterion, is that such a criterion for analyticity cannot be based on experience, for obvious reasons. And, we can not appeal to psychological or phenomenological experience either because

¹⁴ The problem with the idea of a concept being the totality of its constitutive elements precludes a strict notion of identity, i.e., Leibniz's principle of the identity of indiscernibles. This idea seems to be what the "Prototype theory" took to be the defining key to concepts, in which "most concepts (esp. lexical concepts) are structured mental representations that encode the properties that objects in their extension tend to possess" (Margolis & Laurence 31). The criticisms against such a theory include; the problem of ignorance and error, the problem that some concepts lack established prototypes, and the problem of compositionality. For such criticisms, c.f. Osherson, Daniel N. & Smith, Edward E. "On the Adequacy of Prototype Theory as a Theory of Concepts" in *Concepts*. Margolis, Eric & Laurence, Stephen (eds.) Cambridge: The MIT Press, 1999. 261-278.

that would suggest that a proposition may be analytic for one person and synthetic for another person.

To continue, Garver addresses the criterion based on the role or function of the judgement in question, i.e., the explanatory criterion, for identifying analytic claims. Kant established that analytic statements were illustrative and explicative, whereas synthetic claims were ampliative and express genuine knowledge. It is conceivable, however, that the function of a proposition is, in some way, equivalent to its form. Garver explains, “Logical proof is a matter of form, but it also seems in a certain sense to be a way of knowing – that is, a way of ascertaining the cognitive acceptability of a string of symbols” (Garver, *This Complicated Form of Life* 32). Garver’s thesis, then, emphasizes the explicative function of analyticity. He thinks that the practice of attributing the qualifier “is analytic” to certain judgements is to engage in a sort of language-game. In turn, the defining feature of these sorts of language-games is explicative. He argues; “what Kant calls an analytic judgment is generally the same thing as what Wittgenstein calls a grammatical proposition; more specifically, that analytic judgments are all grammatical propositions (Garver, *This Complicated Form of Life* 38). Analytic judgments serve to obtain the clarity of concepts. However, concepts are not made intelligible through analytic judgments. Rather, the judgments serve to elucidate these concepts and regulate, in some way, what sorts of inferences can be made from them.

The nature or purpose of such clarification and elucidation of concepts is found through the explanation of technical language and the subtleties of special languages. It can also serve to educate students in the language-game of a specific discipline. Analytic judgements also function to present the possibility of inference, although without

justification or verification. This feature of analyticity must be immediate, like Luntley's notion of grammar. "The clarification achieved through analytic propositions consists in presenting immediate inference possibilities pertaining to some word which expresses the concept that is being clarified" (Garver, *This Complicated Form of Life* 42). In this sense, analytic propositions are about concepts and words. An analytic judgment is a grammatical remark. Its purpose of clarification serves to explain or describe part of the grammatical constraints in the given language. It is essentially describing the regulative constraints within grammar, indicated by Luntley; "the aim of which is to characterize a language by stating rules for the use of various sorts of linguistic expressions, the empirical accuracy of such a description being determined by whether a person would have to follow such rules in practice to speak the language competently" (Garver, *This Complicated Form of Life* 43). The implication of this view is that analytic propositions are relative to certain conditions and circumstances. And, analytic claims are explications, not truth claims. Garver summarizes:

According to this interpretation of Kant's famous distinction, the criterion of analyticity lies in the way in which the judgment is related to the human beings who make it, or who may make it. More specifically, what an analytic remark does is to clarify a concept by presenting immediate inference possibilities pertaining to some word or phrase which expresses the concept that is being clarified. Because analytic statements present rules governing uses of words and phrases, they are a matter of grammar, and they are equally about words and about things themselves (Garver, *This Complicated Form of Life* 49).

4.6. Conclusion

This understanding of the role of analytic sentences uses a Wittgensteinian interpretation of analyticity, in which analytic statements are grammatical propositions within a given language-game that allow us to make meaningful inferences. Such a

position may lead to an understanding of analyticity that can be compatible with meaning holism, contra Quine's position, because grammatical propositions employ signs already in use. Because analytic judgments serve to clarify concepts, they must serve an explicative function. Analytic statements, then, may be useful and even indispensable in elucidating concepts in the language of science. Moreover, the purpose of the clarification and elucidation of concepts is to delineate the possibilities of valid inferences.

CONCLUDING REMARKS

There are significant consequences of equating analyticity with a Wittgensteinian notion of grammar. First, propositions can no longer have a definitive status as either analytic or synthetic in regards to their form. The reason for this implication is that language, and by extension linguistic meaning, is a social construct that is not static. An apparent example, considering the subject matter of the first part of this thesis, is the frequent change of the significance of theoretical terms in scientific languages. The definitions of the meaning of scientific terms often change according to novel empirical data combined with new sophisticated criteria (Garver, *This Complicated Form of Life* 45). Secondly, there are variations of grammatical norms that guide different discourses, or language games, and “these variations are reflected in a fluctuation in what counts as explicative” (Garver, *This Complicated Form of Life* 45). For instance, what one person thinks is a legitimate explanation might be nonsense to another at a different time. When analyticity is equated to grammar, then grammatical explanations can take on several forms, ranging from a lexical definition to pointing to an object in response to a person’s question. What is at stake is not the truth of the proposition, but the “grasping” of the intended expression. Thus, what is left of analyticity in the traditional (Kantian) sense is the criterion it fulfills in its explanatory function.

Second, Quine’s attack against analytic claims becomes ineffective because analytic sentences are no longer truth-claims. That is, at the very beginning of *Two Dogmas*, Quine clearly states that what he rejects is “... a belief in some fundamental cleavage between truths which are *analytic*, or grounded in meanings independently of matters of fact and truths which are *synthetic*, or grounded in fact” (Quine, *Two Dogmas*

of Empiricism 27). But, the distinction of analytic claims have nothing to do with truth, rather it is a distinction relative to a context and relative to language games. It is also a distinction which emphasizes the explanatory function of certain sentences. In other words, the distinction between the analytic and the synthetic can no longer be represented as a dualism of truths. As a result, acceptance of this new distinction between analytic and synthetic utterances must allow for a degree of variability. Nonetheless, this new interpretation does not completely discard all former properties of the distinction. For instance, it can still be said that analytic statements, under this new interpretation, are about meaning, whereas synthetic claims are about facts.

Another implication of this approach to analyticity arises when it is made explicit that grammar, in Wittgenstein's use of the term, can only be described, in contrast to logic which possesses a normative quality. Grammar "lacks logic's ability to guarantee in advance that there will not be changes in its inference rules" (Garver 45). Grammatical propositions, then, function to explain, illustrate and describe the rules of language. But, to state the precise nature of these propositions is quite difficult, if not impossible. To reiterate, this view suggests that analytic propositions are relative to certain conditions and circumstances and they are explications rather than truth-claims. And, as a result of this Wittgensteinian interpretation of analyticity, the criterion of analyticity becomes intricately linked to the context within which the community makes such utterances.

This approach could possibly justify Oberdan's rejection of the first premise, which held that any distinction between analytic and synthetic claims necessarily entails semantic atomism. It offers a fresh interpretation of the difference between analytic and synthetic claims by equating the analytic sentences within a language with Wittgenstein's

notion of grammatical propositions. By rejecting any meaningful distinction between the function of analytic utterances and their logical form, this interpretation can deny the claim that the analytic-synthetic distinction is *prima facie* incompatible with holism. The reason for this is that the analytic-synthetic distinction becomes one which is dependent on the semantic and syntactic relationships between symbols which include speakers and context, rather than one that is dependent on individual symbols within propositions.

On a broader scope, this fresh look at analyticity can initiate an original perspective towards semantics and lead towards the following methodological consequences. An adequate semantic holist thesis will not only take into account a language, it will also include the language-users. This is because the only way to convey the meaning or extension of a word or sentence is to *describe* the extension of that word or sentence. In turn, that description of the extension of the word or sentence will become part of its meaning. To be clear, the point is that there is no definite set of facts that can be invoked to give the meaning of a word. In other words, “there is no *one* set of facts which has to be conveyed to convey the normal use of a word” (Putnam 185). Thus, any progress in or clarification of semantics will be possible once we acknowledge that a semantic theory must include a social scientific component, along with its empirical (representational) and theoretical (symbolic/syntactic) components. As Putnam explains:

[A] simple lexical definition frequently succeeds in conveying a pretty good idea of how a word is used. To be sure, as Wittgenstein emphasizes, this is only possible because we have a shared human nature, and because we have shared an acculturation process – there has to be a great deal of stage-setting before one can read a lexical definition and guess how a word is used. But in the process of ‘debunking’ this fact – the fact that something as simple as a lexical definition *can* convey the use of a word – they forget to be impressed by it. To be sure there is a great deal of stage-setting, but it is rarely stage-setting specifically designed to enable one to learn the use of *this* word. The fact that one *can* acquire the use of an indefinite number of new words, and on the basis of simple ‘statements of

what they mean,' is an amazing fact: it is *the* fact, I repeat, on which semantic theory rests" (Putnam 184-185).

If, as Putnam suggests in the previous passage, the questions a semantic theory must address include "(1) why do words have the different sorts of functions they do? and (2) how does conveying core facts enable one to learn the use of a word?" then it must incorporate a general understanding of those who use these words (Putnam 187). In any case, acknowledging that requirement will have a substantive bearing on those who wish to pursue semantics and regard it as a legitimate area of study.

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