

Lauri Järvilehto

Pragmatic A Priori Knowledge  
A Pragmatic Approach to the Nature  
and Object of What Can Be Known  
Independently of Experience



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UNIVERSITY OF JYVÄSKYLÄ

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If only there were a dogma to believe in. Everything is contradictory, everything tangential; there are no certainties anywhere. Everything can be interpreted one way and then again interpreted in the opposite sense. The whole of world history can be explained as development and progress and can also be seen as nothing but decadence and meaninglessness. Isn't there any truth? Is there no real and valid doctrine?

-Hermann Hesse: *The Glass Bead Game*

## ABSTRACT

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This research concerns the object and nature of a priori knowledge. A priori knowledge means knowledge that is justified independently of experience. It is the purpose of the present work to reposition this notion in pragmatic terms.

The work consists of two arguments. The first is a dialectic argument whose aim is to demonstrate the viability of the notion of a priori knowledge. It is set against the anti-apriorist argument of Nelson Goodman, Morton White and W.V.O. Quine. Goodman, White and Quine argued against the viability of the notion of analyticity, and consequently of apriority. In the first section of this work, it is shown that while the Goodman-White-Quine argument is sound, analyticity and apriority remain viable philosophical concepts.

The second argument is a progressive argument that explicates the object and nature of a priori knowledge in a pragmatic framework. In the second section of this work, the object and nature of a priori knowledge are studied and elucidated drawing heavily from the philosophy of the American pragmatist C.I. Lewis. Lewis' notion of a priori knowledge is explicated and terminological and conceptual clarification and development is introduced where needed.

It is argued that a priori knowledge concerns our conceptual principles. The object of a priori knowledge are the concepts we employ to make sense of experience. It is, furthermore, argued that the selection of conceptual principles is guided by pragmatic criteria, such as comprehensiveness, simplicity and expediency. Therefore, the nature of a priori knowledge is ultimately pragmatic.

Keywords: epistemology, semantics, a priori knowledge, pragmatism, c.i. lewis, w.v.o. quine, morton white, nelson goodman

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## PREFACE

I remember sitting under a tree in kindergarten when I was six years old, wondering how the world works. This question eventually propelled me into a life of inquiry. Two decades later, it was evident that I could not make progress without formal education. Whenever I came up with a novel idea, it would soon turn out it had already been thought of by somebody else. It made the joy of discovery no less delightful. But it made the discoveries quite unusable for much more than personal entertainment.

In the first months of undergraduate studies, I realized that turning in a master's thesis on "How the World Works" would not resonate well with my superiors. So I narrowed down to find a more suitably focused question. Finally, I submitted my master's thesis on Wittgenstein's *Tractatus*. I was in particular enchanted by the ladder of *Tractatus* §6.54: the idea that understanding somehow transcends language. Wittgenstein, however, discouraged my metaphysical endeavors: what we cannot speak about we must pass over in silence. This was a tremendous setback, considering an inquiry into how the world works.

When looking for a topic for my doctoral dissertation, it occurred to me to look into the philosophy of physics. Perhaps the way the world works is not to be found in the ruminations of Wittgenstein, but rather in the rumble of the Large Hadron Collider. This, however, turned soon to be a dead end. Physics, while a fantastic and enormously interesting discipline in its own right, suffers from the lack of a proper ontology. As David Mermin famously quipped, the ontology of the Copenhagen interpretation of quantum mechanics is: "Shut up, and calculate!"

I then turned to epistemology. I realized that before I could even hope to grapple with how the world works, I should first have an idea as to how I can *know* how the world works. I started with radical constructivism, which I soon found too radical for my purposes. Encouraged by my supervisor Sami Pihlström, I then studied Hilary Putnam, who led me in turn to William James. In reading James I realized I had finally found a soil in which my inquiry might flourish. The thing is: maybe these questions cannot be answered for once and for all. But maybe it suffices if I can produce an interesting point of view or two to some of them. This realization loaded me with optimism. It left me, however, with another kind of a problem: where to go next? Armed with Jamesian methodological pluralism I felt like the proverbial child in the candy store: there were just so many enchanting ways to go about the inquiry.

Finally, my supervisor tipped me to read a relatively unknown little paper written by a prominent Harvard scholar in the early 1920's. And so, the penny dropped. In reading Clarence Irving Lewis' "A Pragmatic Conception of the A Priori," I came to realize that those ten pages expressed concisely what had been haunting at the edge of my consciousness for a very long time. After devouring the rest of Lewis' epistemological works, I came to the conclusion that Lewis had saved me at least ten years of active research. Furthermore, he also gave me a delightfully intriguing avenue of inquiry to pursue for my dissertation: the nature of a priori knowledge. I admit the question of a priori knowledge is only

minutely smaller in scope than the question of how the world works. But it is, as a great deal of philosophical tradition shows, as good a place to start as any.

It is my intention to bring to light in the present work some issues that concern our commitment to beliefs that are so basic that we will not call them to doubt, no matter what. We all have our dogmas, we all have our fundamental beliefs that we will hold on to, no matter what. And that is as it should be; without a bedrock, our entire world of experience would be a non-conceptual mess in constant fluctuation where we could not even begin to make the sense of how things stand.

If there is one thing I hope to establish with this study, it is that regardless of our faith in our dogmas, regardless of our certainty in our worldview, it is still but one among countless many. Even if our own conceptual scheme was the most viable in terms of our needs and pursuits, that might not be the case for the next person. There is no limit to how many perspectives to the world can be taken. There simply are better and worse ways to see it, respectively to the seers. The question is, ultimately, pragmatic.

## ACKNOWLEDGEMENTS

I wish to thank my supervisor, professor Sami Pihlström, without whom this work would not have come to existence. His guidance has been utterly invaluable to me along the progress of this research. Also, he has set an inspiring example of an academic standard to aspire to. His meticulous methodology and amazing range of knowledge and understanding give a glimpse of how world-class philosophy is made. His example has also served to remind me time and again how little I know, and how much there is still to learn.

My heart-felt thanks go also to Ahti-Veikko Pietarinen, Timo Tiuraniemi, Frank Martela, Toni Kannisto, Pentti Määttänen, Sami Paavola, Markku Roinila and Anssi Korhonen, who have been generous enough to take the time to read the manuscript of the present work, and to comment on it. I have benefited extensively from these comments. I also wish to thank the staff at the department of Social Sciences and Philosophy at the University of Jyväskylä, who kindly supported this research, in particular professor Mikko Yrjönsuuri. I also wish to thank the University of Jyväskylä for the financial support they have generously given to my work.

I have also had the luxury of presenting these theses to quite a diverse crowd of absolutely fantastic thinkers. In speaking at conferences at the University of Jyväskylä, University of Helsinki, University of Turku, University of Tampere, University of Bochum, Germany, University of Uppsala, Sweden, University of Hertfordshire, England and University of Reims, France, I have gained insights to the topic at hand I could not have dreamed of otherwise. I want to thank all those wonderful fellow researchers I have had the chance to share these thoughts with. In particular, I have learned beyond measure from the conversations I have had the pleasure to carry out with the professors Tim Crane, Francois Recanati, Susan Haack, Daniel Cohnitz, Michael Tye, Pierre Frath, John R. Shook, Wayne Proudfoot, Douglas R. Anderson, Ilkka Niiniluoto, Ahti-Veikko Pietarinen and Esa Saarinen.

I want to thank my father Timo, who I believe shares equal responsibility with that kindergarten tree for the life of inquiry that I have found myself living, and my mother Rauni, who has always supported my aspirations, no matter where they have led me. Finally, the biggest thank you must go to my amazing wife, Laura, and my wonderful children Silja and Luukas, who have supported my academic endeavors despite long weeks of absentminded musing and piles of dusty old books cluttering the house. I dedicate this work to you, with all my love.

Vantaa, 2.8.2011  
Lauri Järvilehto

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ABSTRACT

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## 1 INTRODUCTION

In June 2006, Sir John Ball, the president of the International Mathematical Union, travelled to St. Petersburg to discuss awarding the Fields medal, the world's most prestigious prize in mathematics. The Fields committee had decided to award the medal to Grigory Perelman, a Russian mathematical genius. Perelman had in 2002 presented a proof of the notorious Poincaré conjecture – one of the allegedly most difficult mathematical problems in the world.

After ten hours of intense negotiation with the eccentric mathematician, Sir John had to give up. The genius would not accept the prize. Perelman justified his decision as follows: “[the prize] was completely irrelevant for me. Everybody understood that if the proof is correct then no other recognition is needed.” (Nasar & Gruber 2006, p. 3.) The proof itself was all that mattered to Perelman. Matters of worldly recognition or wealth were utterly trivial to the genius who had dedicated his life to mathematics.

Perelman's prodigious feat involved introducing a tremendously complicated mathematical proof to craft a commonly accepted theorem from what had been conjectured by Henri Poincaré a century earlier. What is interesting is that Perelman's proof, like mathematical proofs in general, required no empirical evidence to support it. The proof required no empirical testing, nor did it require testimonials from Perelman's peers to support it. It simply sufficed that he did the math right. The proof of the Poincaré conjecture crafted by Grigori Perelman is knowable *a priori*. Knowledge concerning the validity of the proof is independent of experience.

The question of whether there is such knowledge that is independent of experience is the critical watershed in contemporary epistemology. There have been compelling accounts presented both for and against the existence of this particular type of knowledge. Those advocating the existence of a priori knowledge often characterize the truths of mathematics and logic as prime examples of a priori knowledge: we can know  $2+2=4$  without empirically bringing two pairs together. There are also a large class of generic statements

that it seems we can know the truth of without needing to empirically corroborate them. "Jack is a bachelor" is a statement that is obviously in the need of empirical corroboration. We need to know which Jack is referred to, and whether or not he is married. The statement "all bachelors are unmarried," however, requires no empirical corroboration. Regardless of whether we know Jack, or any bachelor for that matter, we know straight away that "all bachelors are unmarried" is true, no matter what.

Despite such relatively obvious cases, the possibility of a priori knowledge has been contested, especially since the onslaught of scientific and mathematical revolutions of the early 19<sup>th</sup> century shook the philosophical discussion. In the present-day a priori discourse, lines are divided on two fronts. First, the notion of the viability of the notion of a priori knowledge is debated between the apriorists and the anti-apriorists. Second, the debate among the apriorists is also fierce. What common ground, if any, can be established in the plethora of the presently available accounts of a priori knowledge is a topic that warrants its own study. Because of problems involved both in the classical and contemporary positions, the discussion may benefit from repositioning. This is the purpose of the present study.

In the present treatise, the nature and object of a priori knowledge are studied in a pragmatic framework. This may seem somewhat controversial: a priori knowledge has not been a concept heartily embraced by the leading pragmatists. Quite the opposite: such prominent pragmatist thinkers as Charles Sanders Peirce, William James and John Dewey openly criticized the idea of there being any such unchanging principles that could be known independently of experience. The pragmatist temperament is generally pluralistic, empiricistic and naturalistic, and therefore averse of the idea of apriority. The pragmatist allows a great variety of worldviews, without exacting a single God's Eye View on how things stand.

There is, however, at least one prominent apriorist in the pragmatist pantheon. In 1923 the Harvard scholar Clarence Irving Lewis published a paper called "A Pragmatic Conception of the A Priori." In this paper, Lewis turned the entire notion of a priori knowledge on its ear, thus reintroducing the concept into pragmatist discourse. According to Lewis, empirical knowledge involves three elements: what is given in experience, the concepts we employ in interpreting what is given, and the actual act of interpretation where we apply the concepts to the given. A priori knowledge, in turn, concerns exclusively the concepts we employ in making sense of experience.

The novelty in Lewis' approach is to argue that the choice of concepts and their application is ultimately volitional, all the way to the most fundamental conceptual commitments such as the commitment to a particular logic. Consequently, the nature of the commitment to a given set of concepts is arguably pragmatic: it depends on such criteria as comprehensiveness, simplicity and expediency. Since the commitment to a set of concepts is pragmatic, and since a priori knowledge targets exclusively concepts, the nature of a priori knowledge is ultimately pragmatic.

The method of the present study is systematic. Two central questions are addressed: the question of whether there is a priori knowledge, and the question of what is the nature and object of a priori knowledge.

Correspondingly, two arguments are forwarded to answer the central questions. The first is a dialectic argument concerning the viability of the notion of apriority. The second is a progressive argument concerning the nature and object of a priori knowledge.

The first argument addresses one of the most prominent and convincing anti-apriorist accounts presented in the 20<sup>th</sup> century: the argument against the tenability of analyticity presented by Nelson Goodman, Morton White and W.V.O. Quine around the 1950's. This part consists of a dialectic argument through which I seek to establish that despite the credibility of this anti-apriorist account, the notion of a priori knowledge remains a viable and needed conception.

In the second argument I seek to establish Lewis' philosophy as the grounds for a convincing account of a priori knowledge. Lewis' epistemology and semantics are explicated for relevant parts, and his notion of a priori knowledge and its object is studied and developed. Finally, the most pressing problems that arise will be addressed, and suggestions for further study will be pointed out. Drawing from Lewis, I will defend three theses. First, that there is a priori knowledge. Second, that the object of a priori knowledge is the conceptual scheme. And third, that the nature of a priori knowledge is pragmatic.

While positions from the history of philosophy are introduced to motivate the present research, the present work is not intended as philosophical exegesis. The method employed here is that of forwarding theses by drawing from historical sources, by clarifying and unifying terminology used therein, and by setting historical arguments in dialectical opposition against one another to generate new insight. The most thorough discussion of existent philosophical positions concerns the anti-analytic argument of Goodman, White and Quine, and the epistemology and semantics of C.I. Lewis. These positions are introduced as grounds for further philosophical development. It should also be noted that I will proceed to present and argue these positions in a chronologically reversed order. The reason to this is that the argument by Goodman, White and Quine is customarily regarded as a deadly blow to the notion of a priori knowledge. Therefore, a solution to this argument is needed before any positive thesis can be forwarded in favor of the nature and object of a priori knowledge.

The contribution of this study to the present a priori discourse is two-fold. First, by showing that Lewis' position can be construed as compatible with the argument by Goodman, White and Quine, I have sought to establish the pragmatic conception of a priori knowledge – a position that has been widely disregarded by the prominent contemporary apriorists – as a viable contender in the contemporary discourse concerning the nature of a priori knowledge. Second, I have developed and unified Lewis' position significantly by clarifying his terminology and adjusting it so that it is more compatible with the conceptual divisions employed in the present-day discourse. By these two contributions I have worked to demonstrate that the pragmatic conception offers indeed a very promising avenue of inquiry concerning the nature of a priori knowledge.



## 1.1 The History of A Priori Knowledge

Insofar as it is known, the idea of knowledge that is independent of experience was first presented in Plato's dialogue *Meno* (Plato 1997). The dialogue is well known for Socrates' demonstration of *anamnesis*: that learning is actually a type of recollection. Socrates claimed that we possess innate knowledge that can be rendered explicit by teaching, such as the truths of geometry. Aristotle's idea of first principles from which infallible deductive inference can be drawn is also a notion familiar to a priori knowledge (Aristotle 1952). The first recorded use of the term 'a priori' is by the 14th century logician Albert of Saxony (Encyclopaedia Britannica 1994, p. 1). Originally, the terms 'a priori' and 'a posteriori' referred to inference from cause to effect, and from effect to cause, respectively.

The first systematic account of a priori knowledge can be attributed to René Descartes.<sup>1</sup> His notion of clear and distinct ideas that we can reach by the natural light of reason is the first systematically developed notion of what can be known a priori. The introduction of the term 'a priori' to epistemological discourse is usually attributed to Gottfried Leibniz (Gómez-Torrente 2006, p. 5). The concept became a part of common epistemological vocabulary by the latest in Immanuel Kant's *Critique of Pure Reason* (1781). Descartes, Leibniz and Kant are the central philosophers to whose thinking the vast majority of the contemporary a priori discussion owes. Common positions on a priori knowledge may be divided according to their historical roots into the following three categories.

A priori knowledge can be distinguished by:

- 1) some psychological criterion such as the "natural light of reason";
- 2) some particular mode of proof, or logical relation to experience in general; or
- 3) that experience itself is already limited or determined by a priori knowable categories of the mind.

Let us call these psychologist, or Cartesian; onto-logicist, or Leibnizian; and transcendentalist, or Kantian views, respectively.

The Cartesian position is based on the notion that a priori justification is received from the rational faculty of human beings. The Leibnizian position assumes that a priori knowledge targets propositions expressible in statements that are both analytic and necessary. Consequently a priori knowledge is thought to reflect the logical and ontological structure of the world. The Kantian

<sup>1</sup> Normally the historical treatment of a priori knowledge in the contemporary literature starts with Kant (see e.g. Casullo 2003). Very similar distinctions can, however be found also in Descartes and Leibniz. I have chosen to focus on these historical positions here to elucidate the development of the contemporary notion of a priori knowledge. The division to a priori and a posteriori knowledge has its roots in even earlier distinctions such as those of Plato and Aristotle mentioned above. Owing to the slightly tangential nature of the historical study of the lineage of the division I have, however, chosen to omit it here and to focus in this section on the more immediately relevant historical positions.

position gives up the coextensivity of analyticity and apriority. For Kant, the distinguishing criterion of a priori knowledge is that the judgment known a priori is necessary and universal. In what follows, these positions will be studied more closely.

### 1.1.1 The Cartesian A Priori

In *Meditations III*, Descartes writes as follows:

When I say here that ‘I am taught by nature’ to think so, I mean only that I am prompted to believe this by some spontaneous inclination, not that it is shown to me to be true by some natural light. The two things are very different: for whatever is shown to me by the natural light [...] can in no way be doubtful, because there can be no other faculty that I could trust as much as this light [...]. (Descartes 2008, p. 28.)

What we come to believe by our senses can always be doubted. But what is shown by the natural light of reason is indubitable and certain. The psychologistic, Cartesian, view presupposes that there are truths that compel us to such an extent that doubting them is impossible, such as the conclusion of the famous *cogito* argument. In doubting his own existence Descartes came to conclude that there must be somebody doing the doubting. Therefore doubt itself proves the existence of the doubter.

Descartes’ philosophy was revolutionary in its time. It set out to thwart the dogmatic Aristotelian-Scholastic philosophy that dominated the field up to his time. He called attention to the fact that there are scarce few things we can know for certain. Our senses are certainly not an infallible source of knowledge. And even our minds could be manipulated by an evil demon. However, argued Descartes, we can still establish some such indubitable principles as the existence of the self arising from there being somebody to doubt said existence.

The assumption of infallible psychologistic first principles attracts, however, a very compelling counter-argument. This is the argument from the history of science. Some truths certainly *seem* indisputable even after considerable scrutiny. However, it is perfectly possible that the mental capacity of human beings would be so put together as to make some patent falsities appear as beyond all doubt.<sup>2</sup> In Descartes’ time, it seemed impossible that anybody could ever call the seemingly indubitable postulates of Euclidean geometry into doubt, not to speak of the basic laws of logic.

In the early 19<sup>th</sup> century, the situation, however, changed radically. The surfacing of hyperbolic geometries, such as those developed by Bolyai, Lobachevsky and Riemann, demonstrated that the notion of the universality of the Euclidean axioms was, in fact, questionable. In hyperbolic geometry, the parallel postulate, that dictates that two parallel lines never cross, does not hold. Since the development of quantum mechanics, it has even been suggested that traditional two-valued logic should be discarded in favor of a quantum

<sup>2</sup> A similar sentiment is expressed by Leibniz (1989b, p. 26): “Nor do I see that the people of our day have abused any less the principle that they have laid down, that *whatever I clearly and distinctly perceive about a thing is true or is assertable of the thing in question*. For, often, what is obscure and confused seems clear and distinct to people careless in judgment.”

logic that takes into account the logical anomalies that arise from the Copenhagen interpretation of quantum mechanics.<sup>3</sup>

While a great deal of things seem true to us even after prolonged investigation, things' seeming to be so does not guarantee their in fact being so – no matter how many centuries of investigation we have to back our intuitions up with. There is always the possibility of error, no matter how long we have held on to the truth of some belief, no matter how intricate proofs we may have conjured up. This is the case as much for a priori knowledge as it is for a posteriori, or empirical, knowledge.

Psychological grounds for justification, even the best of them, are therefore always fallible. In order to maintain the degree of certainty or infallibility attributed to a priori knowledge, more solid grounds for the source of a priori justification must be found. Perhaps the certainty of a priori knowledge does not arise from the natural light of reason, but from the impossibility of some things' being otherwise than they are. If it could be demonstrated that certain states of affairs were necessary, and furthermore that knowledge targeting them would arise from the analysis of the meanings of the statements expressing them, the notion of a priori knowledge could perhaps be salvaged. This leads us to the Leibnizian position.

### 1.1.2 The Leibnizian A Priori

Leibniz writes about a priori knowledge as follows:

The possibility of a thing is known *a priori* when we resolve a notion into its requisites, that is, into other notions known to be possible, and we know that there is nothing incompatible among them. (Leibniz 1989b, p. 26.)

Central to the Leibnizian, or onto-logicist, account of a priori knowledge is the idea that a priori knowledge arises from the analysis of a notion into its component parts. Also the division of truths into two categories is at the heart of Leibniz's conception of a priori knowledge. Truths of reason are truths that can be arrived at purely by analyzing a notion into its component parts. Truths of fact can only be arrived at by experience.<sup>4</sup> A priori knowledge concerns the

<sup>3</sup> The Copenhagen interpretation is the dominant interpretation of early quantum mechanics proposed by, among others, Niels Bohr and Werner Heisenberg in the 1920's. According to the Copenhagen interpretation, a quantum system is described as a wave function, which results in such logical anomalies as an electron's being able to reside in multiple locations at one time. It has been argued that this effect annuls the distributive law, or even the law of the excluded middle. An apt example of the elimination of the excluded middle is the famous "Schrödinger's cat" thought experiment. Erwin Schrödinger postulated that if a cat was put in a closed box with a device that would kill the cat under certain quantum conditions, the anomalies of quantum mechanics would in fact cause the cat to be simultaneously alive and dead before it was observed. See Schrödinger (1983). For more details, see e.g. Faye (2008). The Copenhagen interpretation has launched fierce debates both concerning the validity of quantum mechanics as well as the validity of classical logic. A famous argument in favor of the fundamentality of quantum logic has been forwarded by Hilary Putnam (1968).

<sup>4</sup> In contemporary discourse it is customary to speak of analytic and synthetic truths, correspondingly. The position that only analytic truths can be known a priori was later adopted by e.g. the logical positivists. See in particular Ayer (1946).

truths of reason: we arrive at truths of reason by analysis, because analysis reveals the necessary primary truths out of which the proposition expressing the truth of reason is itself composed:

Truths of reasoning are necessary and their opposite is impossible: truths of fact are contingent and their opposite is possible. When a truth is necessary, its reason can be found by analysis, resolving it into more simple ideas and truths, until we come to those which are primary. (Leibniz 2008, §33).

Once we resolve a truth of reason into those simple ideas and truths it is composed of, we specify the primary components of it that are in themselves necessary. By analyzing a notion into its component parts, insofar as the composite parts yield a truth that holds necessarily, the notion can be known a priori. More specifically, truths of reason are founded on necessary presuppositions; what are customarily thought of as axioms:

In general, every true proposition which is not identical or true in itself can be proved a priori with the help of axioms or propositions that are true in themselves and with the help of definitions or ideas. (Leibniz 1989a, p. 226.)

Necessary presuppositions, together with valid inference, yield true conclusions under all circumstances. The necessary presuppositions involved in a particular truth of reason can be resolved by analysis. Analyticity and necessity are, therefore, the central criteria in distinguishing a priori knowledge from a posteriori knowledge in the onto-logicist position.

There is, however, a critical ambiguity involved in the notion of the necessity of presuppositions. C.I. Lewis (1929, pp. 200–201) notes that logical priority does not entail necessity. A logically prior statement is a *sufficient* condition for the statement entailed by it – but it is by no means a *necessary* condition. The latter statement might be arrived at by other means as well.

Logical entailment alone does not, therefore, suffice to establish necessity. Necessity requires logical *equivalence*. Only such presuppositions that are equivalent to what they entail hold necessarily. This would, however, trivialize the notion of presupposition. If we were to take “A presupposes B” to mean “B implies A,” we would end up with such a profusion of presuppositions that the utility of the notion would be lost. The necessary conditions of a fact are its logical consequences, not presuppositions from which the fact can be inferred. (Ibid., p. 203.)

More recently, the concept of postulate has replaced the idea of the self-evident axiom.<sup>5</sup> This has arisen in part from the surfacing of non-Euclidean geometries. Since various sets of postulates may give rise to logically consistent deductive systems, we cannot maintain that any particular of these competing sets would somehow be more self-evident than another. This leads to the conclusion that no metaphysical first principles can be defended on the grounds of their logical indispensability or priority. The choice of valid axioms or postulates depends on the choice of logic, not on the ontological structure of the world.

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<sup>5</sup> See e.g. Schiller (1902).

While every good logic is such that its axioms are undeniable without contradiction, it is because in making deductions within the logic we shall keep to those axioms. Logic itself cannot show its axioms to be true or false, necessary or contradictory. The axioms we assume hold because we cannot begin to make an inference before we make some such assumptions. And after we have so assumed, there is nothing that could possibly overthrow these axioms.

While the Cartesian position assumed the infallibility of the rational faculty, the Leibnizian position assumes the universal applicability of a single logic. There have since been shown to be several consistent logics that have distanced themselves from the logic employed and developed by Leibniz. For example, while the law of the excluded middle seems like a very compelling principle to us, there are consistent three-valued logics, such as the ones developed by Charles Sanders Peirce (1909) and Jan Łukasiewicz (1970), that do not incorporate such a principle.

The Leibnizian view is, therefore, arguably reduced into a variant of the Cartesian view: while logical necessity seems at first hand to carry more weight than the natural light of reason, it appears that logical necessity can only be determined with respect to the presuppositions in the logical framework in which these truths appear. The framework itself is completely dependent on these presuppositions, which in turn – at the end of the day – are accepted on the grounds of their seeming to be necessary for a given set of inferences.

It appears then that there are no guarantees of there being some such metaphysical first principles that a logical framework could be built upon that the Leibnizian position requires. It could, however, be argued that logic, and subsequently a priori knowledge, targets not the ontological constitution of the world, but the conditions of experience. The role of logic could be construed not as formal ontology, i.e. concerning the structure of the real, but as formal epistemology, i.e. concerning the structure of our knowledge of the real. This brings us to the Kantian position.

### 1.1.3 The Kantian A Priori

The Kantian, transcendentalist view distances itself from the assumption of necessary metaphysical first principles, and rather presupposes that it is *experience* that is limited by some a priori categoriality. Necessity concerns then the conditions of experience, not the ontological structure of the world. According to Kant,

if a proposition is thought along with its necessity, it is an *a priori* judgment; if it is, moreover, also not derived from any proposition except one that in turn is valid as a necessary proposition, then it is absolutely *a priori*. [...] Thus, if a judgment is thought in strict universality, i.e., in such a way that no exception at all is allowed to be possible, then it is not derived from experience, but is rather valid absolutely *a priori*. [...] Necessity and strict universality are therefore secure indications of an *a priori* cognition, and also belong together inseparably. (Kant 1998, pp. B3–B4.)

Kant's position may be characterized as a category theory that shifts the emphasis from metaphysical categories, such as Aristotle's, to epistemological

categories. As concerns the a priori, the pivotal argument of the Kantian position is that there are necessarily some preconditions to the way the world is experienced, and that these preconditions can be known a priori. Necessity is, therefore, the unifying criterion for Kant's a priori. Unlike Leibniz, he however forgoes the requirement of analyticity. In fact, the central question addressed in Kant's *Critique of Pure Reason* is that of how are synthetic a priori judgments possible.

Kant holds that a priori cognitions are absolutely independent of all experience (ibid., pp. B2-B3). It should be noted that Kant acknowledges that a priori cognitions have a shared origin with experience: "although our cognition commences with experience, yet it does not on that account all arise from experience" (ibid., p. B1).

Central to Kant's philosophy is the notion that experience consists always of two components: the material of experience and what we bring to experience in order to organize and categorize it. A judgment is knowable a priori only if the knowledge of its truth arises from the observation of our own categorizing activity. The transcendentalist notion of a priori concerns, therefore, the categories of experience and the pure forms of intuition – space and time. Categories and the pure forms of intuition constitute the transcendental: the conditions, or limits, of what can be experienced.

Kant introduced the division to analytic and synthetic statements. Like Leibniz, Kant holds that the truth of analytic statements can be known by the analysis of their component parts. However, he maintains that there are also synthetic a priori truths. For example, judgments concerning the categories and the pure forms of intuition are, according to Kant, synthetic a priori.

By shifting the focus of a priori knowledge from the rational faculty of human beings and the metaphysical structure of the world to the necessary preconditions of experience, Kant steered clear of the problems specified above in the context of the psychologistic and onto-logicistic positions on a priori knowledge. Kant's position, however, invites a new avenue of criticism. Kant assumes the necessity and indispensability of his twelve categories and two forms of intuition. The criticism of the transcendentalist position targets precisely the alleged necessity of these preconditions.

Kant's categorial system soon received followers that demonstrated that other kinds of epistemological categoriality can be argued for. Peirce, for example, reduced Kant's twelve categories to three (Peirce 1931, p. 148 ff.).<sup>6</sup> This gives rise to the argument that various different categorial systems may be employed to interpret experience.<sup>7</sup> Therefore, it may be argued that there are no necessary preconditions to experience any more than there are necessary logical presuppositions. We may utilize a great variety of different kinds of categorial systems to make sense of experience.

<sup>6</sup> Other categorial systems, both metaphysical and epistemological, have been developed by e.g. Edmund Husserl (2001), Wilfrid Sellars (1974), Ingvar Johansson (1989) and Roderick Chisholm (1996).

<sup>7</sup> Later, this notion of the relativity of categorial interpretation was developed into the idea of the conceptual scheme or framework, employed by e.g. C.I. Lewis (1929), Rudolf Carnap (1956b) and W.V.O. Quine (1951). Quine's and Lewis' positions are studied in detail below.

It should be noted that it is very hard to criticize the notion that there are *some* necessary preconditions to experience. This is where the strength of Kant's position lies. The notions introduced by Peirce and others do, however, raise the question as to whether the twelve categories enumerated by Kant can be defended as the specific necessary preconditions of experience.

The apriority of the pure forms of intuition proves slightly more difficult to criticize. Namely, it does indeed seem *prima facie* that all experience relies a priori on the forms of space and time, and that space and time cannot be derived from experience. Apriority of space and time as necessary conditions for experience is, however, also criticizable.

The following thought experiment may be used to tentatively call the necessity of the pure forms of intuition to doubt. Let us imagine an alien from a distant star system, such as Alpha Centauri. The Alpha-Centaurian does not perceive in terms of space and time as separate qualities, but in terms of Minkowski space-time: the three spatial dimensions and the temporal dimension are considered on an equal footing. This creature would perceive simply in terms of four equivalent dimensions: it would not make the qualitative differentiation between the three spatial dimensions and the temporal dimension. Modern physics supports also positions where more than three spatial dimensions are postulated. One can then expand the idea to any n-dimensional coordinate system where time figures in only as a single individual coordinate. Therefore, the differentiation of time and space as separate forms of intuition can at least be called to doubt.

The notion that a priori knowledge targets the preconditions of experience is a sound one. In observing the *preconditions* of experience, we do not need to turn to experience itself. Therefore, knowledge concerning the preconditions of experience can be considered a priori knowledge. However, the notion that these conditions would be necessary, unchanging and infallible is dubitable. It seems that we can indeed come up with a great variety of different ways of interpreting experience, where Kant's account, while impressive in itself, figures only as one out of many viable ones.

In fact, it is the alleged necessity and infallibility of a priori knowledge that causes many of the problems found in all the classical positions. The Cartesian position assumed that there are some such indubitable principles that we can know to be true a priori on the grounds of their compelling nature. It can be called to doubt because human beings have been time and again shown to entertain false beliefs centuries on end. The Leibnizian notion assumed that we can know some presuppositions a priori owing to the consistency of deductions carried out on grounds of them. Attributing necessity to such presuppositions or axioms is, however, difficult to defend because various mutually exclusive sets of presuppositions may yield equally consistent inference.

Finally, while the Kantian position offers compelling grounds for apriority, it too is questionable because it assumes that the a priori knowable preconditions of experience are fixed for once and for all. As was demonstrated above, alternate ways of classifying experience can be argued for. Some categorial commitments, it appears, are required in order for there to be

experience at all. But it seems that we are not confined to a particular set of them.

All three classical accounts have thus problems. They have subsequently invited a great deal of more contemporary a priori literature. Let us next cast a quick glance at the various prominent accounts in the contemporary discussion.

## 1.2 The Contemporary Discussion

In the contemporary discussion, a plethora of attempts to solve the problems associated with the a priori have been presented. The field is riddled with an abundance of mutually incompatible approaches and attempts at making sense of the nature of a priori knowledge.<sup>8</sup>

Following Casullo (2003), the contemporary positions may be divided into two main categories. The conditions of a priori knowledge can be identified on either epistemic grounds, or non-epistemic grounds. Epistemic conditions of a priori knowledge fall into two categories: justification and defeasibility. Justification conditions fall, furthermore, into the categories of source and strength. The source of a priori justification concerns some such epistemic sources as rational insight: a statement is known a priori when the source of its justification is non-experiential. The strength of justification concerns the degree of justification lent to a priori knowledge. Also defeasibility conditions can be divided into strong and weak categories. In the former category, all defeaters of knowledge are included, in the latter only some. In both cases, a priori justification is such justification that cannot be defeated by the specified defeaters.

Non-epistemic conditions concern the truth conditions of statements known a priori. Non-epistemic conditions can be divided into the categories of necessity and analyticity. In the first case, a statement known a priori is considered necessary. That is to say, what can be known a priori must hold under every imaginable circumstance, or it must be true in all possible worlds. In the latter case, the statements that express a priori knowledge are considered analytic. That is to say, a priori knowledge arises from the analysis of such statements whose truth can be determined solely by coming to understand the meanings of the components of the statement.

Nonepistemic a priori knowledge is defended, among others, by A.J. Ayer and Roderick Chisholm. Ayer (1946, p. 71 ff.) holds that a priori knowledge is necessary and analytic. Drawing from the pool of logical positivism, Ayer (*ibid.*,

<sup>8</sup> For a more comprehensive round-up of the contemporary discussion on a priori knowledge, see e.g. Moser (1987), Boghossian & Peacocke (2000), Casullo (1999) and Casullo (2003). See also the entries on a priori knowledge in the *Oxford Handbook of Epistemology* (Casullo 2002), the *Oxford Handbook of Contemporary Philosophy* (Peacocke 2005) and the *Stanford Encyclopedia of Philosophy* (Russell 2007). The selection of apriorists studied below is by no means exhaustive. The positions described here are some of the most commonly acknowledged positions on a priori knowledge. In addition to the positions mentioned below and those included in the above compilations, see also e.g. Hintikka (1973, 1974), Stenius (1989), Azzouni (1992), Rey (1998), Devitt (1998) and McGinn (1999).



p. 16) maintains that an a priori proposition must be a tautology in the sense that it is "true solely in virtue of the meaning of its constituent symbols, and cannot therefore be either confirmed or refuted by any fact of experience." Chisholm (1989, p. 26 ff.) claims a priori knowledge is restricted to axioms and their consequences. An axiom must be necessarily true and certain for everyone who accepts it. Ayer and Chisholm commit arguably to a variant of the ontologist position.

The defenders of nonepistemic analyses also include Anthony Quinton (1967, p. 108), who maintains that 'a priori' means either 'non-empirical' or following Kant, 'necessary'. R.G. Swinburne (1987, p. 186), in turn, maintains that a priori knowledge furthermore demands the awareness of the modal status of the statement known. In other words, an a priori knowable statement must be both necessary, and known to be necessary.

Philip Kitcher (1984, p. 24) evokes the notion of *ultra-reliability*: "a priori warrants are ultra-reliable; they never lead us astray." As an interesting aside, Kitcher (1980, pp. 5-6) has also addressed the problem evoked by Kant (1998, p. B1) concerning the fact that while a priori knowledge does not arise from experience, it must begin with experience. Kitcher presents an interesting formulation that given a priori knowledge is accessible to a person only in the case she has lived a sufficient life to acquire the concepts required by that knowledge.

The strong commitment to necessity by Quinton, Swinburne and Kitcher invites the criticism presented against the onto-logicist and transcendentalist positions: what are the criteria on the grounds of which necessity may be specified, if there is no single exclusive logical or categorial framework we must commit to?

Necessity is also included as a criterion in some epistemic analyses. Panyaot Butchvarov (1970, pp. 76) evokes the notion that a priori knowledge is recognizable by the unthinkability of mistake. In other words, if a mistake in a given belief is unthinkable, then no revision of that belief is possible. It should, however, be noted that this raises the question that unthinkability of mistake may arise, in fact, from at least two sources: the mistake's being actually unthinkable, and from the thinker's inability to think it. In addition to being a potentially sufficient criterion for a priori knowledge, unthinkability may also be caused by the lack of imagination on part of the thinker.

A very prominent epistemic analysis of a priori knowledge is presented by Laurence Bonjour. He holds that "a proposition is justified *a priori* when and only when the believer is able, either directly or via some series of individually evident steps, to intuitively 'see' or apprehend that its truth is an invariant feature of all possible worlds" (Bonjour 1985, p. 192). Also Alvin Plantinga (1993, pp. 105-106) evokes the notion of seeing. Plantinga holds that seeing that a proposition is a priori true consists in finding oneself convinced that the proposition is true and understanding it could not have been false.

The 'seeing' evoked by Bonjour and Plantinga encounters, however, some problems that were addressed above in the context of the classical psychologistic position on a priori knowledge. Namely, even the most pressing seemings may turn out eventually to be false. Bonjour, however, takes this into account and defends a *fallible* psychologistic criterion for a priori knowledge. In

this way, he avoids the most pressing criticism against a psychologistic a priori position. Fallible a priori knowledge will be addressed in greater detail below.

Another typical epistemic analysis of a priori knowledge is given by George Bealer. He evokes the notion of intuition as the epistemic source of a priori knowledge. Bealer (1998) presents a thorough analysis of the notion of intuition. He claims that intuitions are used as evidence in standard justificatory practices. Therefore, they should be accepted as justification for a priori knowledge as well. Bealer also supports the fallibility of a priori knowledge (Bealer 1998, p. 202).

There are some prominent positions that distance themselves considerably from the classical accounts. Saul Kripke (1980, p. 54 ff.) presents an interesting aside to the mainstream a priori discussion. He argues that there are also contingent a priori knowable truths, such as that the standard meter bar in Paris is one meter long. In another possible world it could be that that particular piece of platinum-iridium alloy could be of a different length.<sup>9</sup> He also argues in favor of necessary a posteriori knowable truths, such as water's being necessarily H<sub>2</sub>O. Because water's being H<sub>2</sub>O is a material truth, it cannot be known a priori, yet because of the definition of 'water' it must hold in every possible world and be therefore necessary.

Hilary Putnam (1978) has presented strong criticism against the assumed infallibility of a priori knowledge. He has, however, maintained that there is some use for the notion. Putnam argues that there is at least one a priori knowable truth: the minimal principle of consistency. He argues that it cannot be the case that every statement is simultaneously true and false. If that were the case, no theories could be formed about anything: everything would entail everything.

Finally, there is the idea of fallibilistic a priori knowledge. Compelling cases have been presented in favor of the fallible nature of all knowledge. Most prominent fallibilists are arguably Charles Sanders Peirce (1932, CP 2.75), John Dewey (1930) and Karl Popper (2002). As was tentatively shown above, the classical positions encounter problems owing to their assumed infallibility. Therefore, some contemporary apriorists have, some more grudgingly than others, embraced the notion of fallibility of a priori knowledge. The most notable fallibilist apriorists are Laurence Bonjour and George Bealer.<sup>10</sup> According to Bonjour, the justification of a priori knowledge involves an intuitive apprehension of necessity. This apprehension itself is, however, not infallible. Bonjour elucidates the notion of the fallibility of a priori knowledge as follows:

In opposition to the view of most philosophers in the rationalist tradition, I see no reason to regard such apprehensions as being in any useful sense infallible or certain; on the contrary, it is quite clear that mistakes can and do occur. (Bonjour 1985, p. 208).

<sup>9</sup> It has also been argued that the Paris meter's being one meter long does not even constitute knowledge. See e.g. Wittgenstein (2001). Also, the redefinition of the meter as a fraction of a light second in 1983 can be argued to invalidate Kripke's example.

<sup>10</sup> Other fallibilist apriorists include Bob Hale (1987, p. 123 ff.) and Donna Summerfield (1991).

This opens up promising avenues of inquiry as regards the criticism leveled against the psychologistic a priori. If a priori knowledge is considered fallible, the argument from the history of science, for example, loses its edge. However, new problems arise in introducing fallibility as a dimension in a classical account on a priori. It certainly invites the question as to whether the notion of a priori knowledge can survive at all in a fallibilistic framework. Perhaps we can at best only hold that knowledge is justified *more or less* a priori? This question is addressed in detail in the section 2.3 of the present work.

Assuming necessity and infallibility of a priori knowledge invites a great variety of problems. Assuming fallibility, on the other hand, risks losing the viability of the concept. In order to steer clear between these two extremes, the discussion may benefit from repositioning. That is the purpose of the present work.

### 1.3 The Questions

The term 'a priori' has been used in philosophical discourse in a wide variety of ways. As was noted above, it originally referred to inference from causes to effects. Subsequently, it has been used variably as a predicate of knowledge, justification, judgment, cognition, truth, statements, forms of intuition, categories and concepts. It has also been employed as an indeterminate noun, 'the a priori,' in referring to independence from experience. In contemporary discourse it is commonly restricted to its use as an epistemological predicate. In the present work it is, therefore, maintained that 'a priori' applies primarily to knowledge and justification.

A priori knowledge is knowledge that is independent of experience. It is constituted of a true belief that is justified nonexperientially. In order to know p a priori, I must entertain the belief that p, p must be true and the justification for p must be independent of experience.<sup>11</sup>

The nature of justification is central to the determination of a priori knowledge. Justification may arise from at least four sources out of whom only one qualifies as a priori justification. Justification may be based on sensory perception. For example, if I see that Jack is on the road, I am justified in believing the proposition p, "Jack is on the road." Justification may also be based on testimony. If a trustworthy friend tells me that Jack is on the road, I

<sup>11</sup> It should be noted that the traditional idea of knowledge as justified true belief has met with considerable problems in the recent years. Edmund Gettier (1963) famously demonstrated that while it may be argued that justified true belief is a necessary criterion for knowledge, it is not a sufficient one: a true proposition may be believed on grounds of faulty justification. The question of the Gettier problem is a heated topic of debate in epistemology, and will not be addressed in greater detail here. Also the notion of truth becomes complex in a pragmatic framework. In a correspondence theory, truth means the correspondence of a proposition or a sentence with a fact: "p" is true iff p. In a pragmatic framework, however, "p" is true if it makes sense to believe that p. In other words, "p" is true, if believing that p works for our purposes. (See e.g. James (1907, p. 589)). Despite such problems as described above that generally riddle epistemology, the classical notion of knowledge is, for the sake of argumentative clarity, employed as the starting point of the present work.

am justified in believing p. Justification may also be based on introspection. If p is "I am happy," I may justify the belief in p by coming to realize by introspection that I am happy. And finally, justification may be based on intuition, inference or other such faculty that is independent of experience. Only such justification qualifies as a priori justification.<sup>12</sup>

On the grounds of these determinations, we can now draw the following generic definition of a priori knowledge:

(AP) A priori knowledge is knowledge whose justification is nonexperiential.

The two central questions concerning a priori knowledge are the following:

- 1) Is there a priori knowledge?
- 2) If yes, then what is the nature and object of a priori knowledge?

The first question arises from the rub of the infallibilism and fallibilism specified above. If the necessity and infallibilism of a priori knowledge cannot be maintained, does the entire notion collapse? The second question concerns determining what it means for knowledge to be independent of experience, and what it is that such knowledge concerns.

It is the purpose of the present work to establish a firm affirmative answer to the first question and to elucidate the second. The first question is studied in the context of one of the most prominent anti-apriorist attacks of the 20<sup>th</sup> century: that of Nelson Goodman, Morton White and Willard van Orman Quine. The second question is studied in the pragmatist framework, drawing most notably from the semantics and epistemology of C.I. Lewis. It is the purpose of the present work to defend the existence of a priori knowledge and to establish an account of the nature and object of a priori knowledge that steers clear of the problems specified above.

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<sup>12</sup> There are other potential justifiers such as memory. If I remember Jack's having been on the road, I am justified in believing "Jack was on the road." Memory is, however, a difficult issue in the context of a priori knowledge. Trivially, memory is, of course, required for such a priori justifiers as inference in the sense that one must be able to recall the rules of inference, the axioms being used, the constants relevant to the inference and so forth. However, memory is not required as a justifier in the sense above: the proposition being justified is not being justified on the grounds of a memory of its truth.

## 2 ON THE VIABILITY OF THE CONCEPT OF THE A PRIORI

The possibility of a priori knowledge has been contested by many philosophers since the 19<sup>th</sup> century. In this first section, an argument against the viability of a priori knowledge as a philosophical concept is investigated. The purpose of this chapter is to establish that a priori knowledge is indeed a viable and much needed philosophical concept.

The first systematic argument against a priori knowledge was presented by John Stuart Mill in his *A System of Logic* (1868). Mill argued that such alleged objects of a priori knowledge as the truths of mathematics were in fact simply inductive generalizations. Mill's position did not yet garner a wide support. In the 1950's, however, a very compelling position against analyticity, and as a corollary, a priori knowledge, surfaced that caused entire schools of analytic philosophy to relinquish the a priori and the analytic. This position is that of Nelson Goodman's, Morton White's and Willard van Orman Quine's presented in three influential papers in 1949, 1950 and 1951.

It is not the intention here to contest the Goodman-White-Quine argument, henceforth referred to as GWQ. Greater minds have set out to that task, yet the debate still stands unresolved. Rather, a conception of apriority and analyticity will be presented that will accommodate for GWQ. Thus, the contribution of GWQ to the a priori discussion will not be considered to be that of renouncement, but rather that of repositioning.

In what follows, GWQ will be studied in detail. A selection of explicit critiques of the argument will follow its exposition. These critical notions will yield tools to reposition the question of analyticity so as to retain an use for the notion. Subsequently, the direct relevance of GWQ to a priori knowledge will be explicated. Finally, a GWQ-compatible explication of both analyticity and apriority will be given.

The main thesis of the following section is that while such exactitude as is demanded by GWQ of analyticity and apriority is not possible, it does not

render the concepts useless. It shall be contended that they are both highly useful and very viable concepts usable, with sufficient adjustments, in philosophical investigation.

## 2.1 The Goodman-White-Quine Argument

An analytic statement is such as whose truth can be determined on the grounds of the meanings of its constituents.<sup>13</sup> From Kant till the 1950's, the analytic-synthetic distinction was standard issue in analytic philosophy. In the 1940's, a heated correspondence ensued at Harvard between Nelson Goodman, Morton White and Willard van Orman Quine, concerning the tenability of the distinction.<sup>14</sup>

The findings of the correspondence were preliminarily examined in Goodman's "On Likeness of Meaning" (1949). The central argument was summarized in White's "The Analytic and the Synthetic: An Untenable Dualism" (1950). Finally, the argument was expanded to full bloom in Quine's seminal "Two Dogmas of Empiricism" (1951), lauded by some as one of the most influential papers in analytic philosophy of the 20<sup>th</sup> century.<sup>15</sup> The position advocated by the trio was that owing to vagueness of meaning in natural language, analyticity was an untenable concept. GWQ has set the stage for much of philosophical debate in the latter half of the 20<sup>th</sup> century. In the following, the focus will be on the three papers in which the attack on analyticity was initiated.

### 2.1.1 Goodman on Synonymy

Goodman's "On Likeness of Meaning" is centered on the problems involved with synonymy. In particular, Goodman is concerned with how we can determine that two names or predicates of natural language have the same meaning. Goodman first recaps and demolishes various classical notions of

<sup>13</sup> Classically, an analytic statement was also considered to be one where the subject contains covertly the predicate attributed to it. See e.g. Kant (1998, p. A6/B10, 1993, p. 14).

<sup>14</sup> This correspondence has been published as an appendix to White's autobiography (White 1999, pp. 337-357). The correspondence began with White's concerns about the paradox of analysis as presented by C.H. Langford. Langford (1952, p. 323) formulated the issue as follows: "Let us call what is to be analyzed the analysandum, and let us call that which does the analyzing the analysans. The analysis then states an appropriate relation of equivalence between the analysandum and the analysans. And the paradox of analysis is to the effect that, if the verbal expression representing the analysandum has the same meaning as the verbal expression representing the analysans, the analysis states a bare identity and is trivial; but if the two verbal expressions do not have the same meaning, the analysis is incorrect." In order for an analysis to be informative, it must rely on the replacement of synonyms with synonyms. But in order for two terms to be synonymous, they must mean exactly the same. Therefore, their synonymy cannot be informative. White expressed his concerns in the paper "On the Church-Frege Solution to the Paradox of Analysis" (White 1948). The correspondence that ensued ultimately culminated in the three highly influential papers studied in this chapter.

<sup>15</sup> See e.g. Godfrey-Smith (2003, p. 31) & Murphey (2005, p. 328).

synonymy. He then surveys extensively the viability of coextensivity as a criterion for synonymy. Finally, he ends up augmenting the traditional notion of coextensivity, thus arriving at a satisfactory criterion for synonymy, but one that implies that no clear-cut synonymy can be established, but only a gradated synonymy, a likeness of meaning.

Out of the classical notions, Goodman first addresses the Platonic notion of synonymy. According to the Platonist, synonymy concerns two predicates reflecting the same idea. Without offering any detailed grounds for his disbelief, Goodman expresses doubts as to whether we can know that two terms do in fact stand for the same idea. He thus cursorily rules out the Platonic account as unsatisfactory (Goodman 1949, p. 1).

He notes that the idea of two synonymous predicates' expressing the same mental idea or concept is more practical. It is, however, exactly the evoking of mental imagery that makes the notion troublesome. Some concepts obviously evoke ideas, but others do not. Even nonsense syllables may evoke images, yet apparently be void of meaning (*ibid.*). Goodman then moves to concept theory, where the idea of mental images is replaced by concepts. In terms of concept theory, synonymy means that two terms evoke the same concept. The concept theory, however, allows inconsistent concepts, such as square circles. And were we to want to rule out inconsistent concepts, we would have to resort to such meaning-relationships that we are attempting to explain. They cannot, in other words, be used to define them. (*Ibid.*, p. 2.) The concept theory does not offer proper criteria for defining genuine, self-consistent concepts.

Goodman next faces the possibility theory. He questions whether the possibility of something's satisfying one term but not the other can be established (*ibid.*, p. 2). Goodman asks whether we can determine whether two predicates apply to the same possibles by asking whether their disjunction is self-consistent. He notes that as long as the two predicates are different, their compound is logically self-consistent, and no other means for determining its self-consistency exist (*ibid.*). Thus, possibility theory offers no help in determining whether two predicates have the same meaning or not.

Platonism, mental coincidence, the concept theory and the possibility theory having apparently failed, Goodman turns next to investigate coextensionality as the criterion for synonymy. First off, Goodman disregards the argument against coextensionality that extensions vary with time: according to him, the extension of a predicate consists of everything past, present and future, to which the term applies: "neither the making or the eating of cakes changes the extension of the term 'cake'" (*ibid.*, p. 3).

Goodman points out that equating the meaning of a term with its extension leads to circularity: in order to know whether the term applies to an object, we must know its meaning, and in order to know its meaning, we must know its extension. But if we know the extension of the term, we must know whether it applies to the object. In Goodman's opinion, this apparent circularity does not undermine the thesis of coextensionality as the criterion for synonymy. We can decide that two predicates have the same extension without knowing exactly all the things they apply to (*ibid.*). Having come this far, Goodman settles for coextensivity as the criterion for synonymy.

There are, however, problems concerning coextensionality as a criterion for synonymy. Coextensionality fails, for example, in the case of fictitious entities. Both 'centaur' and 'unicorn' have the same extension, namely null, but obviously differ in meaning. The problem is that two terms differing in meaning may be coextensive. That terms meaning the same are coextensive is, of course, evident, and for the present purposes trivial.

The relationship between extension and meaning is a difficult one, as has been observed ever since Frege's introduction of the sense-reference distinction.<sup>16</sup> Difference of extension "does not draw distinctions as fine as those drawn by difference of meaning" (Goodman 1949, p. 4). This was traditionally handled by introducing meaning-entities, senses, that lie between terms and extensions. Goodman, however, feels dissatisfied with such "ghostly entities" as senses.<sup>17</sup>

To craft an entirely extension-based approach void of such notions, Goodman introduces the notion of secondary extensions. Since two coextensive terms do not necessarily mean the same, the discrepancy in meaning is accountable in terms of differences in extensions of other terms related to the two synonymous terms. The discrepancies in meaning can be explained by the variance in extension when certain kinds of predicates are applied to a term. The primary extension is that of the term's itself, the secondary extension is that of any of the compounds including it.

Goodman explains this point by elaborating on the difference of meaning of 'centaur' and 'unicorn'. Such ideas as 'thoughts', 'concepts' and 'meanings' are discarded. Goodman notes that since there are no centaurs and no unicorns, all centaurs are unicorns and vice versa; and all uncles and feet of centaurs are uncles and feet of unicorns and vice versa. This far coextensionality works: we can substitute *salva veritate* 'centaur' for 'unicorn' in any sentence containing the predicates mentioned.

However, once we predicate something such as 'picture of' over 'centaur' or 'unicorn', we run aground insofar as substitutability *salva veritate* is concerned. For surely there are pictures of centaurs and pictures of unicorns, and they certainly are not the same things. Thus, we cannot substitute 'picture of centaur' for 'picture of unicorn' *salva veritate* – the two compound terms are obviously not coextensive. There is furthermore the problem that if a compound term were to have an extension other than null, it would imply that its components should have such an extension as well. In other words, 'picture of unicorn' seems to imply the existence of unicorns, just as does 'uncle of unicorn'. The latter case is, however, unproblematic, since the extension of 'uncle of unicorn' is just as empty as the extension of 'unicorn' itself. As what comes to 'picture of unicorn', the said condition does not hold. In order to avoid this unfortunate consequence, Goodman proposes to form non-composite terms out of the composite terms. In other words, pictures of unicorns and centaurs

<sup>16</sup> See Frege (1892).

<sup>17</sup> The dissatisfaction with abstract entities such as senses and intensions arose from Goodman's strong commitment to nominalism. For a lucid account of Goodman's and Quine's nominalistic views, see Goodman & Quine (1947). See also Goodman (1986) and Quine's reply (Quine 1986). This commitment to nominalism is also a cornerstone of the Goodman-White-Quine correspondence.



are treated as 'unicorn-pictures' and 'centaur-pictures'. (Goodman 1949, pp. 4-5.)

Instead of unicorn-pictures standing in some relation to unicorns, and centaur-pictures to centaurs, a unicorn-picture and a centaur-picture are simply individual objects, just like desks and chairs. And while 'centaur' applies to no thing, 'centaur-picture' applies to quite a many things. Likewise, 'unicorn-picture' applies to many things, these things being, for the most part, something other than 'centaur-picture'. 'Unicorn-picture' and 'centaur-picture' are, then, not coextensive. While two terms may be coextensive, adding certain predicates to them may give them differing extensions.

For every two coextensive words that differ in meaning some corresponding compounds incorporating them differ in extensions. Thus the difference in meaning among coextensive terms is explained as difference with respect to the extensions of other (compound) terms. On these grounds, we can draw the distinction between primary and secondary extensions. The primary extension is that of the term's itself, the secondary extension is that of any of its compounds. Thus, synonymy can be formulated as follows: "two terms have the same meaning if and only if they have the same primary and secondary extensions" (ibid., p. 5). According to Goodman, this determination resolves the issue evoked by Frege concerning the coextensivity and meaning-discrepancy of 'Morning Star' and 'Evening Star'. Since the secondary extensions of 'Morning Star' and 'Evening Star' differ, they differ in meaning, too.

Of course there are a great deal of terms to whom such predicates as 'picture of' does not apply, for example terms denoting sounds or smells. There is, however, a straightforward way to overcome this objection. Since actual word-inscriptions are genuine physical objects inasmuch as anything else, also such predicates as 'description of', 'symbol of', 'diagram of', and so forth are among the legitimate components in forming compounds eligible for secondary extension. And with such predicates denoting the actual symbol used, no two words signified with different symbols can mean the same. Thus an all-out coincidence of extensions can only exist across words symbolized by the exact same symbol. (Ibid., p. 6.) This kind of repetitive synonymy is obviously trivial in the context of the present discussion.

In this light synonymy in its classical sense cannot survive. No two words can have exactly the same meaning. There are no two terms that can be substituted for each other *salvo veritate* in every possible sentence. And given the differences in secondary extension yielded by the predicate 'description of', this is the case even at the exclusion of such intensional contexts as 'necessary', 'possible', 'attribute of', or 'thought of'. Goodman concludes: "we shall do better never to say that two predicates have the same meaning but rather that they have a greater or lesser degree, or one or another kind, of likeness of meaning" (ibid., p. 7).

In natural language, synonymy simply means a very close degree of likeness of meaning. There is variation as to how close a likeness is required of terms for synonymy; often correspondence of primary extensions suffice. But an

all-out identity between any given two terms cannot be established. There is no synonymy. There is only likeness of meaning.<sup>18</sup>

Goodman's position can now be summed up as follows:

(G) Because no two predicates have exactly the same meaning, synonymy can only be established as likeness of meaning.

While Goodman has been focusing here mostly on synonymy, he too understands the relevance of his findings for analyticity. Goodman ends "On Likeness of Meaning" with a glance at the argument White will subsequently build upon. He notes that since analyticity relies on the notion of clear-cut synonymy, namely the substitution of the logical truth "all A are A" for the statement "all A are B," and since no such synonymy as 'B' means exactly the same as 'A' can be established, no non-repetitive statement can be analytic. The most we can say is that a statement is more or less analytic. This argument is pursued further by White.

### 2.1.2 White on Analyticity

The purpose of White's 1950 paper is to render explicit the Harvard anti-analyticity argument. In the paper, White first observes the consequences Goodman's position on synonymy has for analyticity. Then he deals with and discards various positions on analyticity that at closer scrutiny turn out defunct. White concludes with discarding the analytic-synthetic distinction, calling for a gradualistic notion to replace it.<sup>19</sup>

As is the case with Goodman, and later Quine, White does not concern himself with the analyticity of logical truths – these he takes to be analytical in a somewhat trivial sense. The most critical issue at hand is essential predication – that is to say, the extracting of logical truths from natural language statements (White 1950, p. 318). White maintains that the distinction between essential and accidental predication has been drawn obscurely (*ibid.*, p. 319). White's argument relies on the Goodmanian notion of synonymy. Were essential predication possible, one should be able to determine, as was pointed out by Goodman at the end of his paper, that two words mean exactly the same. According to Goodman, this is never the case.

The core of White's argument runs as follows:

The demonstration that "All men are rational animals" is analytic depends on showing that it is the result of putting a synonym for its synonym in a logical truth. In this situation we find ourselves asking whether a statement in a natural language or what Moore calls ordinary language – a language which has not been formalized

<sup>18</sup> A similar notion concerning truth, truthlikeness, has been evoked by Ilkka Niiniluoto (1987). According to Niiniluoto, propositions should not be divided strictly into true and false ones, but rather on a finer scale according to their closeness to the truth.

<sup>19</sup> White returns to the topic in great extent in *Toward Reunion in Philosophy* (White 1956). In the book, White addresses the topic of apriority and analyticity by re-evoking arguments both presented by himself and Quine. White's papers on analyticity discussed here are also included in the collection *From a Philosophical Point of View* (White 2005) with some additional later papers on the topic.

by a logician – is analytic. We find ourselves asking whether two expressions in a natural language are synonymous. (White 1950, p. 321.)

Like Goodman, White maintains that there is always some variance as to the meaning of different terms; no two terms mean exactly the same in natural language. White exemplifies this position by showing that while analyticity can be defined in formal languages – languages “dreamed up by a logician” – by stipulation, this cannot be done for natural languages. In a formal language, one can make an arbitrary division of statements into analytic and synthetic ones. Formal languages, by their very nature, follow such exact rules. Natural languages, in turn, “have no rule-books and the question of whether a given statement is analytic in them is much more difficult” (White 1950, p. 321).

Knowing and using a language requires no explicit knowledge of its rules of syntax or grammar; language is learned in use. As White (1950, p. 323) notes, “those who use natural language do not make conventions and rules of definition by making a linguistic contract at the dawn of history.” Furthermore, on the grounds of Goodman’s argument, meaning is gradated in natural language. For this reason, segregating statements into analytic and synthetic ones becomes difficult, if not impossible. According to White, many who seem to understand the notion of analyticity, fail to provide a clear definition of it, and hence in reality do not understand it (*ibid.*, p. 319).

White then sets out to show the weaknesses in existent attempts at defining analyticity. He first goes after C.I. Lewis’ intensional position on analyticity. In *An Analysis of Knowledge and Valuation* (1946), Lewis expounded his epistemological theory, which made great use of the analytic-synthetic distinction.<sup>20</sup> According to White, Lewis’ take on analyticity relies on such hazy notions as ‘criterion in the mind’ and ‘experiments in imagination.’ Lewis follows Kant in assuming that one of the criteria for analyticity is that an experiment in imagination cannot allow one consistently to find the contradiction of an analytic proposition thinkable. But, questions White, “how shall we interpret this ‘cannot’? How shall we understand ‘thinkable’?” (White 1950, p. 323). Because of such psychologistic notions, White finds the conception of intensionality, on which Lewis’ position is based, unacceptable.

Having dealt with the intensional notion of analyticity, White then considers two anti-intensional views of analyticity: statements whose denials are self-contradictory and statements based on the necessary rational acceptance of analyticity. White questions the criteria for how one is to determine whether something is in fact self-contradictory or not, such as in the case of the sentence “it is not the case that all men are rational animals.” He points out, that this determination relies deep down on some kind of a sensation – but what is this “horror in the presence of the opposites of analytic statements” (*ibid.*, p. 325) supposed to feel like? And who is qualified in determining the self-contradictoriness of a sentence based on this feeling? Again, the definition of analyticity seems to encounter the brick wall of hazy psychologism. White concludes by echoing Goodman:

if analytic statements are going to be distinguished from synthetic true statements on the basis of the degree of discomfort that is produced by denying them, the

<sup>20</sup> Lewis’ epistemology is addressed in greater detail below, in chapters 3.2–3.3.

distinction will not be a sharp one and the current rigid separation of analytic and synthetic will have been surrendered. (White 1950, p. 325.)

If the criterion for analyticity is a sense of discomfort, it depends almost entirely upon whosoever happens to be the person experiencing that discomfort. Since there will no doubt be a variable range of discomforts spread across different people, no clear-cut dichotomy can be struck here.

As what comes to rational acceptability, White uses as an example the hypothetical syntheticity of the sentence "all men are featherless bipeds," by contrast to the hypothetically analytic "all men are rational animals." He presents an example of an imaginary anthropologist interrogating some natives as to whether one could determine the degree of analyticity of these two sentences. No distinct criteria for such determination are, according to White, forthcoming. Again, the only difference between the two is a matter of degree: "Not being a rational animal is simply a better sign of the absence of manhood than is the property of not being a featherless biped" (ibid., p. 327).

Finally, White considers the relativization of synonymy: that "X is synonymous with Y in situation S," thus stripping any absolute notion of meaning from synonymy. White contests this notion too, because it too is subject to questioning "how we establish synonymy even in a given situation" (ibid., p. 329). On the grounds of what has been said about synonymy and meaning, there will be discrepancies as to how words are interpreted even within a given context. Thus, context-reflexivity is scarcely of avail in determining meaning.

Finally, White notes that while he holds that no sufficient criterion for analyticity has been presented, that does not mean that one could not be presented in the future. He argues, however, that were a criterion of analyticity forthcoming, it would likely render the distinction between analytic and synthetic a matter of degree. Thus, he holds that the classical strict analytic-synthetic distinction is untenable. (Ibid., p. 330.)

A summary of White's position can now be given as follows:

(W) Since no definite dichotomous criteria for analyticity can be established, the distinction between the analytic and the synthetic, if establishable at all, can only be one of degree.

After having observed several attempts at differentiating analytic statements from synthetic ones, and having discovered the lack of definite criteria for such activity, White has arrived at the conclusion that the analytic-synthetic cut is, indeed, an untenable dualism.

### 2.1.3 Quine and the Two Dogmas of Empiricism

Goodman's and White's papers set the stage for Quine's impressive 1951 paper "Two Dogmas of Empiricism." The two dogmas attacked in Quine's paper are

analyticity and reductionism.<sup>21</sup> Quine's paper is divided into six sections. The first four concern analyticity, and the last two target reductionism. The core of Quine's argument against analyticity relies foremost on the notion of circularity of defining it. According to Quine, 'analytic' is a term that belongs to a circular family of ill-defined terms, such as 'synonymy' and 'necessity' out of which all are definable only in terms of each other.<sup>22</sup> In the last two sections of the paper Quine also introduces his notion of meaning holism. According to Quine, individual statements become meaningful only in conjunction with an entire scheme of statements. Thus no statement can be attributed an independent meaning. Therefore, reductionism is false.

Quine begins his attack on analyticity by exploring the use of the notion in various historical contexts. He focuses in particular on the Leibnizian definition of analytic statements as such whose denials are self-contradictory. He points out that self-contradictoriness and analyticity are "two sides of a single dubious coin" (Quine 1980, p. 20): they are defined through each other. Also the similarly Kantian notion of conceptual containment gets a suspicious eye from Quine: it is limited to statements of the subject-predicate form, and the notion of containment is left at a metaphorical level (*ibid.*, p. 21). Much like the later Fregean senses, Kant's notion of containment is something that is mostly just assumed, rather than properly delimited and defined.

Quine then turns to the Fregean position. He studies the separation of meaning from naming, referring to both Frege and Russell. He recurses to the perennial problem presented by Frege in his "Sense and Reference" (1892): "Terms can name the same thing but differ in meaning" (Quine 1980, p. 21). The terms 'Evening Star' and 'Morning Star' both have the same reference, or *Bedeutung*, but a different meaning, or *Sinn*, as was demonstrated by Frege. To paraphrase, co-extensive terms can differ in intension. Quine then observes some general properties of intensionality and extensionality, leading into the famous rephrasing of Aristotelian essential predication: "Meaning is what essence becomes when it is divorced from the object of reference and wedded to the word" (*ibid.*, p. 22). Quine, like White, observes two cases of analytic statements: logically true statements and statements which can be turned into logical truths by substitution of synonyms (*ibid.*, pp. 22-23). Following Goodman and White, Quine focuses on the latter problem: determining synonymy.

Quine addresses next Carnap's notion of state-descriptions, i.e. the notion of exhaustive assignment of truth values to the atomic statements of the language.<sup>23</sup> This notion is based on the assumption that all statements are in this

<sup>21</sup> With 'reductionism', Quine means here in particular the verification theory of meaning, that is to say, the idea that the meaning of a statement is the method of confirming or disconfirming it.

<sup>22</sup> Commenting on his work four decades later, Quine sums up the anti-analytic argument presented in the first four sections of the paper as follows: "Repudiation of the first dogma, analyticity, is insistence on empirical criteria for semantic concepts: for synonymy, meaning. Language is learned and taught by observing and correcting verbal behavior in observable circumstances. There is nothing in linguistic meaning that is not thus determined." (Quine 1991, p. 272.) This argument is reminiscent of Mill's position on the a priori.

<sup>23</sup> Carnap's idea of the state description, elaborated in *Meaning and Necessity* (1947) is

fashion compositional. Quine points out that the criterion of analyticity in terms of state-descriptions “serves only for languages devoid of extra-logical synonym pairs” (Quine 1980, p. 23).

As soon as synonymy is introduced – as is the case with natural language – state descriptions cannot account for analyticity. While analyticity may be defended for an established state description, the problem is effectively with translating natural language statements to such unequivocal statements of which the state descriptions can be composed. The issue is the same as with logical truth. Analyticity for logical truths is not problematic, but establishing the correspondence of given logical truths with given expressions is. Even with the rigidity of state-descriptions and the ensuing logical atomism, establishing analyticity for natural language is dependent on the notion of synonymy – a notion, which, on the grounds of what was argued by Goodman and White cannot be sustained. State-descriptions can thus only account for logical truth – for the determination of truth for logical statements – but not analyticity.<sup>24</sup>

Quine next turns to truth by definition. The issue at hand concerns determining how terms are defined in the first place. In general, definitions rely on an antecedent notion of synonymy. Definition is a matter of establishing that term ‘A’ means the same thing as term ‘B’. As was pointed out by White, we do not have rule-books to which to turn to determine whether ‘A’ indeed stands for ‘B’. At first glance, a dictionary might seem to be of avail here, but unfortunately it soon becomes apparent that this is not the case. We cannot turn to a dictionary to establish synonymy, since the dictionary itself already relies on the established use of synonyms. The dictionary is based on notions of synonymy that already exist: “The lexicographer is an empirical scientist, whose business is the recording of antecedent facts” (Quine 1980, p. 24).

Definitions rely on an antecedent notion of synonymy – and not only for philologists, but for philosophers and scientists alike. Synonymy itself has its grounds in usage: “Definitions reporting selected instances of synonymy come then as reports of usage” (ibid., p. 25). In a later essay, Quine notes that definition is episodic: “Mostly in natural science we are not even favored with definitions, much less bound by them. New terms are just introduced by partial descriptions: electrons, neutrinos, quarks.” (Quine 1991, p. 271.)

Quine then brings up the notion of explication – supplementing or refining the meaning of the term being defined. The trouble here is that “two alternative definientia may be equally appropriate for the purposes of a given task of explication and yet not be synonymous with each other; for they may serve interchangeably within the favored contexts but diverge elsewhere” (Quine 1980, p. 25). Thus, the explicative definition “owes its explicative function, as seen, to pre-existing synonymies” (ibid.). There is no way to establish which of the alternative appropriate definientia we should adopt, apart from the one which is adopted by common practice.

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reminiscent of the Leibnizian idea of possible worlds, as well as Wittgenstein’s Tractarian idea of possible states of affairs. A state description, in effect, enumerates the positive and negative states of all possible configurations of existent things. In effect, it then expresses in its entirety one possible condition of the world. (Carnap 1956a, p. 9.)

<sup>24</sup> Quine explores Carnap’s position on logical truth in greater detail in the paper “Carnap and Logical Truth” (Quine 1966a).

There is a further, extreme version of definition, where a new term is defined as synonymous to some others for the purpose of abbreviation. This stipulative definition is, however, the only case of transparent synonymy in definition, notes Quine, exclaiming: "would that all species of synonymy were as intelligible" (ibid., p. 26). Other forms of definition suffer, however, from some degree of indeterminacy. Thus, definition does not release us from the indeterminacy of synonymy: "In formal and informal work alike, thus, we find that definition – except in the extreme case of the explicitly conventional introduction of new notations – hinges on prior relations of synonymy." (ibid., p. 27). Definitions can then serve as shorthand, but apart from that, they simply reflect adopted use of language.

That said about definition, interchangeability *salva veritate* is the next conception in Quine's sights. This originally Leibnizian idea does offer some relief as concerns the vagueness of meaning: "synonyms so conceived need not even be free from vagueness, as long as the vaguenesses match" (ibid.). There are, however, troubles involved in defining what can be changed with what. For example, idiomatic phrases incorporating a given word, such as 'bachelor's buttons' and 'bachelor of arts' may cause trouble in exchanging an occurrence of a word, such as 'bachelor'. 'Unmarried man of arts' hardly retains the idiomatic meaning of 'bachelor of arts'. The solution is to treat some phrases as individual words, and reject any interchangeability within words. This is reminiscent of Goodman's move to treat pictures of unicorns as unicorn-pictures. If we accept such a stipulation, interchangeability encounters, however, the problem indicated by Goodman: no two terms are interchangeable in every possible statement. Interchangeability is no more free from the problems riddling synonymy as are the antecedent notions discussed.

Some progress can, however, be made with interchangeability. It implies cognitive, or intensional, synonymy, which opens up a new avenue of inquiry. Intensional synonymy can be established by introducing the intensional adverb 'necessarily': Quine expounds this point by establishing synonymy by using such a statement as "necessarily all and only bachelors are unmarried men." Since it is established that unmarried men are necessarily bachelors, this definition holds throughout every possible imaginable situation.

The progress made here is, alas, illusory. This leads to an account where analyticity and necessity are defined circularly: an adequate definition of analyticity requires necessity, but necessity in turn becomes dependent on the notion of analyticity. Quine finds that a language this rich is unacceptable, leading into an argument "not flatly circular, but something like it" (ibid., p. 30).

In a strictly extensional language, interchangeability offers no assurance of cognitive synonymy. As was observed extensively in Goodman's paper, two terms' being coextensive guarantees no identity of meaning. Coextensivity may as well be accidental. Quine sides here with Goodman: extensional agreement is the nearest approximation to synonymy. And coextensivity does no better job at establishing analyticity. Quine concludes that it may be better to discard cognitive synonymy, at least for the time being. It can, perhaps, be reintroduced in terms of analyticity – once we understand analyticity itself.

So much for synonymy. But the search for analyticity continues. In the fourth segment of "Two Dogmas," Quine addresses semantical rules. Appeal to meanings, definition and synonymy have so far let us down in grasping what analyticity is. Carnap's idea of semantical rules may be of use here, since the difficulty in separating analytic statements from synthetic ones in ordinary language is arguably due to the vagueness of ordinary language. Semantical rules may enable us to establish clear distinctions regardless of that vagueness.

According to Carnap (1956a), semantical rules establish which statements are analytic in a given language L. They provide us with convention-based criteria using which we can judge whether a given statement falls into the category of analytic statements or not. The problem is that by saying what statements are analytic for a language L, we simply determine 'analytic-for-L', not 'analytic', or 'analytic for' (Quine 1980, p. 33). Thus, "instead of appealing to an unexplained word 'analytic', we are now appealing to an unexplained phrase 'semantical rule'." (ibid., p. 34). Semantical rules seem then not to shed any light as to what is analyticity, but rather get thrown into the same circular family of concepts already populated by necessity, synonymy and analyticity.

While it may *prima facie* seem that semantical rules at least suffice insofar as artificial languages are concerned, it soon turns out they do not go even that far: "Semantical rules determining the analytic statements of an artificial language are of interest only in so far as we already understand the notion of analyticity; they are of no help in gaining this understanding" (ibid., p. 36). Semantical rules enable us to stipulate analyticity in an artificial language, but not define analyticity itself. With semantical rules we can single out analytic statements – but in so doing we are no closer to an actual definition of analyticity itself.

Having dealt with a massive amount of various approaches to define analyticity, finding them all falling short of a satisfactory definition, Quine finally concludes, "for all its a priori reasonableness, a boundary between analytic and synthetic statements simply has not been drawn. That there is such a distinction to be drawn at all is an unempirical dogma of empiricists, a metaphysical article of faith." (Ibid., p. 37.) It appears that analyticity, like metaphysics, as it was held by a number of philosophers some decades earlier, is a figment of philosophical imagination, one for whose existence we have no proper justification whatsoever. Nominating some statements as analytic and some as synthetic is, according to Quine, quite arbitrary. As what comes to the analytic-synthetic distinction, it is "nonsense, and the root of much nonsense, to speak of a linguistic component and a factual component in the truth of any individual statement" (ibid., p. 42).

Quine's attack on the first dogma of empiricism can now be summarized thus:

(Q1) Since synonymy cannot be established, no criterion for analyticity based on synonymy can be considered viable. All attempts at defining analyticity, necessity and synonymy are circular.

To further cement his position, Quine turns to scrutinize the role of experience in establishing the truth of statements. Perhaps it could still be established that



some statements were indeed free of the requirement of experiential corroboration, and that their truth could be established simply by contemplation. If such a cut were to be established, the analytic-synthetic distinction could then be reintroduced to reflect it.

It soon becomes apparent that this avenue of inquiry is just as much a dead end as the previous ones. To make his case, Quine turns his sights on reductionism. He begins dismantling this second dogma of empiricism by questioning the verification theory of meaning, which he phrases as follows: "the meaning of a statement is the method of empirically confirming or infirming it" (ibid., p. 37).

Particularly problematic is the positivistic idea of radical reductionism – the idea that every meaningful statement can be translated into statements about immediate experience. Quine criticizes the term-by-term critique imposed by this doctrine, and proposes that the significant meaningful unit should be the full statement, not the individual term. This amendment leads Quine to Carnap's *Der Logische Aufbau der Welt* (1928)<sup>25</sup> where Carnap attempted the construction of just such sense-datum language to which significant discourse could be translated statement by statement.

Quine remarks that Carnap's inclusion of notations of logic, and effectively the whole of mathematics, into his language would find some empiricists "boggle at such prodigality" (Quine 1980, p. 39). While Carnap did admit the unfinished nature of his work, Quine notes that it was not only sketchiness in the theory, but the basic principles of it, that led to its inconsistencies (ibid., p. 40). It was, indeed, the very idea of our being able to secure meaning to individual statements that collapsed Carnap's *Aufbau* in Quine's opinion.

To drive this point home, Quine then sets the grounds for one of the most influential discussions in 20<sup>th</sup> century analytic philosophy by an exposition of his meaning holism. We cannot, Quine maintains, establish meaning for statements individually, one by one. Rather, "our statements about the external world face the tribunal of sense experience not individually but only as a corporate body" (ibid., p. 41).

No statement's truth can be determined in isolation. Establishing the truth of any given statement always depends on a number of auxiliary assumptions. At the face of recalcitrant experience, a statement's truth could be maintained by declaring one of the assumptions false. Thus, if we were to experience something that was at odds with what we believe to be true, we could either accept the falsehood of the statement immediately at odds with the recalcitrant experience – or we could just as much keep to maintaining the truth of that statement and relinquish our commitment to the truth of some less immediate statements. For example, in experiencing something that was at odds with our conception of natural laws, such as witnessing a flying man, we might either relinquish the truth of the statement "men do not fly," or we could simply keep on thinking that men do not fly, and maintain the judgment that we are hallucinating, witnessing a magic trick, or some such thing. There is no privileged relationship between a particular statement and a particular

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<sup>25</sup> For an English translation, see Carnap (1967).

experience. The relations are established holistically, for the entire corpus of knowledge.

In the last segment of the paper, Quine expands this holistic approach. In an often-quoted paragraph, he offers the following eloquent elaboration:

The totality of our so-called knowledge or beliefs, from the most casual matters of geography and history to the profoundest laws of atomic physics or even of pure mathematics and logic, is a man-made fabric which impinges on experience only along the edges. Or, to change the figure, total science is like a field of force whose boundary conditions are experience. (Quine 1980, p. 42.)

In the light of this view, it is misleading to speak of an individual statement's having empirical content. All the various statements accepted in a language come to hold part and parcel. "[A]ny statement can be held true come what may, if we make drastic enough adjustments elsewhere in the system" (Quine 1980, p. 43). It is, therefore, the case that no statement is immune to revision.<sup>26</sup> Any statement can be easily rebuked by appealing to mistakes, illusions and the like. Such infallible truths that would hold come what may, cannot be maintained.

Quine deals with the gradualism introduced by Goodman and White in terms of conceptual schemes. Graduality is elaborated as the distance from the empirical "edge" of a conceptual scheme. The difference between various posited objects in science or other conceptual schemes is simply a matter of degree. Thus, "in point of epistemological footing the physical objects and the [Homeric] gods differ only in degree and not in kind" (ibid., p. 44). They both function as cultural posits.<sup>27</sup> "The myth of physical objects is epistemologically superior to most in that it has proved more efficacious than other myths as a device for working a manageable structure into the flux of experience" (ibid., p. 44). The choice of some posits over others rests, then, on pragmatic criteria: physical objects (but also theoretical entities such as electrons) work better in our pursuits than Homeric gods, and as such they are preferable.

Epistemologically the theoretical entities of science are "myths on the same footing with physical objects and gods, neither better nor worse except for differences in the degree to which they expedite our dealings with sense experiences" (ibid., p. 45). Thus Quine has, in relinquishing the analytic-synthetic distinction in favor of a more gradualistic approach, introduced a new kind of conceptual relativism. For Quine, the gradualism does not apply only to the difference in analytic and synthetic propositions, but to any proposition whatsoever. "In repudiating such a boundary," says Quine, he espouses "a more thorough pragmatism. Each man is given a scientific heritage plus a continuing barrage of sensory stimulation; and the considerations which guide him in warping his scientific heritage to fit his continuing sensory promptings are, where rational, pragmatic" (ibid., p. 46).

Quine's holistic thesis can now be summarized as follows:

<sup>26</sup> Later, Quine expressed regrets for having adopted such a strong holism; the key issue, according to him was rather the varying degrees of proximity to observation. See e.g. Quine (1991, p. 268).

<sup>27</sup> This notion was already explored in "On What There Is" (Quine 1948).

(Q2) No statement's meaning can be determined in isolation, because its truth is dependent not only on experience, but also on the truth of auxiliary statements.

The project that grew through the 1940's in the correspondence between Goodman, White and Quine, had thus reached its conclusion. The argument that had grown through the writings of the trio culminated in Quine's quite complete repudiation of the analytic-synthetic distinction.

#### 2.1.4 Summary

To recapitulate, the Goodman-White-Quine argument runs thus:

(G) Because no two predicates have exactly the same meaning, synonymy can only be established as likeness of meaning.

(W) Since no definite dichotomous criteria for analyticity can be established, the distinction between the analytic and the synthetic, if establishable at all, can only be one of degree.

(Q1) Since synonymy cannot be established, no criterion for analyticity based on synonymy can be considered viable. All attempts at defining analyticity, necessity and synonymy are circular.

(Q2) No statement's meaning can be determined in isolation, because its truth is dependent not only on experience, but also on the truth of auxiliary statements.

(GWQ) Analyticity cannot be established owing to the gradated and holistic nature of meaning.

Meaning is vague: no two terms mean exactly the same. Therefore, determining the truth of a statement solely on the grounds of its meaning is not possible. The truth of statements in natural language can only be determined holistically. No statement is immune to revision, and no statement's truth can be established independently of the entire conceptual scheme. There are statements that are closer to the empirical edge of the conceptual scheme, which are more vulnerable to modification by recalcitrant experience; but even the most profound truths embraced in a scheme can be revised. Therefore no division of individual statements into analytic and synthetic ones can be supported.

There remains, however, the compelling fact that some statements still seem to hold come what may: all bachelors are unmarried, no matter what. While GWQ is a thorough and compelling argument against analyticity, it fails to provide an account of the kinds of statements that have given rise to the introduction of such terminology in the first place. Some statements hold come what may. Since GWQ does not provide us with sufficient criteria to explain them, I shall next turn to the criticism of GWQ to see whether some use for analyticity may still be salvaged from the roughing up given to it by Goodman, White and Quine.

## 2.2 Post-GWQ Analyticity

GWQ illuminates some central issues concerning meaning and natural language. It does not, however, stand free of problems. The critical issue concerning GWQ is the brute fact of the existence of seemingly analytic statements. There *are* statements whose truth can apparently be determined by simply analyzing their contents. And there is something profoundly different about such statements, in comparison to statements that require empirical confirmation. Some obvious qualitative difference sets “all bachelors are unmarried” apart from “Fred is unmarried,” even if we, for the time being, fail to identify the exact nature of that difference.<sup>28</sup>

There is an enormous number of accounts against GWQ, most of which cannot be accounted for here.<sup>29</sup> Since the present endeavor concerns an account of analyticity that takes GWQ seriously, I will not comment on GWQ commentaries that rely solely on pre-GWQ conceptions, such as sentence-proposition dualism, against which Quine’s holistic argument can be considered to be a strong argument.<sup>30</sup> It can be said that regardless of their credibility, such accounts argue *aside* GWQ, simply recapitulating such notions that are untenable in the context of GWQ. Such an argument becomes, then, effectively an undialectic row over no common ground.<sup>31</sup>

<sup>28</sup> A tentative solution was offered by Quine in *Roots of Reference* (1974). Quine’s idea was that the sense of analyticity was based on the learning of language. For a native speaker, a statement is analytic in case she learns the truth of it by learning the use of words contained in it. This, however, seems to be a concession to the conventionalist position attacked in “Two Dogmas”: the idea that analyticity depends on the prevailing linguistic conventions. Quine did, in fact, later give up this position: “The crude criterion in *Roots of Reference*, based on word learning, is no help; we don’t in general know how we learned a word, nor what truths were learned in the process.” (Quine 1991, p. 271).

<sup>29</sup> To name a few in addition to the papers referred to in this chapter: on Goodman, see e.g. Root (1977) and Eberle (1978); on White see e.g. Hempel (1951); on White and Quine, see e.g. Herbut (1959); on Quine see e.g. Bennett (1959), Bird (1961), Bohnert (1986) and Boghossian (1996). Goodman’s position on analyticity is also addressed in the book on Goodman by Cohnitz and Rossberg (2006, pp. 66–74), and Quine’s in Koskinen’s book on Quine’s Naturalism (Koskinen 2004, pp. 104–111). For a moderate position that is somewhat GWQ-friendly, yet considers the argument too extreme, see Putnam (1962) and a re-positioning of the problem in Putnam (1983). The focus of the present work does not allow further pursuit of the vast corpus of commentaries on GWQ.

<sup>30</sup> While for example Sullivan (2008) produces an elaborate anti-GWQ argument, it relies almost entirely on such notions as the sentence-proposition distinction which are by definition excluded by GWQ. Since the distinction has such a prominent historical basis, it is no wonder that it has been used to ground anti-GWQ arguments. Here Quine’s meaning holism is, however, taken for what its worth, and the commentaries studied below will rather attempt to accommodate for it than revert to pre-GWQ conventions.

<sup>31</sup> The customary antagonist to GWQ, and in particular Quine’s paper, has often been thought to be Carnap – in particular so, because he is one of the few philosophers Quine explicitly mentions in his paper. In addition to the many counter-attacks to GWQ, also Carnap did respond to it. Carnap’s position, however, suffers from the same problem as those of the other critics drawing directly from the analytic tradition, namely that it relies on concepts that are not viable in terms of GWQ. In Carnap’s reply to Quine’s “Two Dogmas,” he argues by re-iterating notions Quine explicitly criticized, such as limiting the discourse to artificial languages (Carnap 1952, p. 66) and resorting to semantic rules

In order to generate a healthier dialectic, I will focus in the following on critical accounts against GWQ which actually address GWQ on its own grounds. Setting these criticisms against GWQ will enable us to see a path through GWQ that salvages a great deal of the notion of analyticity, and yet conserves the key insight offered by GWQ: the gradual and holistic nature of meaning in natural language.

In what follows, three cases in favor of analyticity are presented: those of Grice and Strawson, Stenius, and Kaufman. Out of the following accounts, the first is one of the most influential papers against GWQ, pointing out in particular some methodologically critical notions regarding GWQ. The two latter accounts, while somewhat less commonly known, introduce two post-GWQ approaches to analyticity which in conjunction lay the bedrock for a very pragmatic approach to analyticity. The avenue of inquiry thus opened will be then pursued further in chapter 2.3.

### 2.2.1 Grice and Strawson Strike Back

The seminal counter-strike against GWQ<sup>32</sup> was the paper “In Defense of a Dogma” (1956), by Paul Grice and Peter Strawson. Grice’s and Strawson’s critique is based on three notions:

- 1) The demands GWQ lays on analyticity are too hard insofar as practically *any* philosophical concept is concerned.
- 2) Since Quine’s argument against analyticity relies, at the end of the day, on the notion of the circularity of its definition, a way to break out of the circle would suffice to resurrect the notion.
- 3) The existence of statements that cannot be determined clearly to be either analytic or synthetic does not exclude the existence of statements that are clearly one or the other.

According to Grice and Strawson, a scarce few philosophical concepts could survive the demands placed on analyticity by GWQ. They also hold that while Quine’s argument for the circularity of analyticity, necessity and synonymy is a very convincing one, were a way to break out of the circularity offered, the notion of analyticity could be salvaged. Grice and Strawson also present such a way. The last item concerns Quine’s meaning holism. Grice and Strawson hold that while there may be many limiting cases for which analyticity cannot be determined, the fact that there are also cases for which it can vindicates the viability of the notion.

Grice and Strawson first explore the notion that the generic requirements of specificity GWQ places on a philosophical concept are too tight. They point

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(*ibid.*, p. 67; cf. above, p. 37 ff.). It is worth noting that the position Carnap ends up embracing is reminiscent of Lewis’ position elaborated below in the sense that also for Carnap, analytic truths involve an element of choice (*ibid.*, p. 68). On comparing Carnap’s and Lewis’ positions, see chapter 3.4.1 below.

<sup>32</sup> I will keep referring to the argument as GWQ, even though the subsequent commentaries barring Kaufman target specifically Quine’s “Two Dogmas of Empiricism.” It is my contention that the three papers are so closely intertwined that even if the target of criticism was Quine, the actual argument targeted is that of all three philosophers.

out that while a vaguely determined concept may indeed warrant criticism, this does not automatically entail that the concept should be discarded altogether (Grice & Strawson 1956, p. 141). This is not the case even if the criticism had as strong grounds as Grice and Strawson admit GWQ has. The more reasonable alternative to jettisoning a concept, that, as is the case with analyticity, has a long proven track-record as a useful philosophical concept, is to refine it. For those who still consider the concept criticized useful, the critique may, in fact, function as a “prelude to clarification” (ibid.). And as GWQ shows, there is certainly room for such clarification.

Analyticity is a concept that had arguably not been properly defined. Certainly at the time of the writing of Goodman’s, White’s and Quine’s papers, there was a degree of indefiniteness involved in it. But even a vague concept may be useful; and instead of discarding such a concept, we should make an effort to clarify it (ibid.). There certainly is something particular about some statements that warrants further elucidation of analyticity. Since there obviously are statements that the concept of analyticity attempts to address, we should not relinquish the concept altogether.<sup>33</sup>

GWQ leaves us devoid of criteria to differentiate the apparently analytic and synthetic statements. Furthermore, despite the indefiniteness of the concepts ‘analytic’ and ‘synthetic’, there is a long and reputable philosophical tradition of using those concepts. There are a great deal of philosophers that do proficiently use those terms, and in so doing more or less agree on their meaning (ibid., pp. 142–143). Of course it should be noted, as Grice and Strawson duly do, that philosophers have been known to make mistakes and commit to illusionary distinctions. Popular usage alone does not suffice to justify analyticity. Popular usage simply motivates us to make clearer what exactly we mean by the terms, in case they were still useful.

Likewise, Grice and Strawson point out that if no such distinction marked by using the concepts ‘analytic’ and ‘synthetic’ exists, then with the dualist bathwater out go the babies ‘means the same as’ and ‘does not mean the same as’ (ibid., p. 145). For since there are no exact same meanings, following Goodman and White, nothing means the same as something else. Clearly this is something of an overstatement.

The demands placed on philosophical analysis by GWQ seems to annihilate not only the analytic–synthetic cut, but also the entire conventions of referring to language:

Instead of examining the actual use that we make of the notion *meaning the same*, the philosopher measures it by some perhaps inappropriate standard (in this case some standard of clarifiability), and because it falls short of this standard, or seems to do so, denies its reality, declares it illusory (Grice & Strawson 1956, p. 147).

If we expect philosophical concepts to enable us to cut exact distinctions, and intend to do away with such concepts that do not, we will be left with a very

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<sup>33</sup> Erik Stenius maintains that a part of the Quinean attack is founded on an insufficient understanding of what the question is about. He notes that introducing gradualism to replace the analytic–synthetic distinction leads to “intellectual poverty rather than clarity.” (Stenius 1972, p. 55.) Stenius’ own account is studied in greater detail in chapter 2.2.2 below.

barren philosophical terminology. If the requirements GWQ places on analyticity were to be extended to all philosophical concepts, not much would be left. There "are doubtless plenty of distinctions, drawn in philosophy and outside it, which still await adequate philosophical elucidation, but which few would want on this account to declare illusory" (Grice & Strawson 1956, p. 142). Despite its shortcomings, analyticity is a concept that we may be warranted to hold on to.

Grice and Strawson then turn to the first part of Quine's "Two Dogmas". They sum up Quine's anti-analytic argument as follows:

The main theme of [Quine's] article can be roughly summarized as follows. There is a certain circle or family of expressions, of which 'analytic' is one, such that if any one member of the circle could be taken to be satisfactorily understood or explained, then other members of the circle could be verbally, and hence satisfactorily, explained in terms of it. [...] Unfortunately each member of the family is in as great need of explanation as any other. (Grice & Strawson 1956, p. 147.)

This summary reflects the (Q1) part of GWQ. Since the case in point is circularity, if a way to break out of the circular family of analyticity, synonymy and necessity can be discovered, (Q1) should be discarded.

Grice and Strawson set out to show how this can be done. The case in point concerns logical impossibility. By the classical definition of analyticity logical impossibility can be used to determine analytic statements: the negation of an analytic statement is self-contradictory, and hence logically impossible. Grice and Strawson produce an example of logical impossibility that involves two cases concerning a three-year-old child. In the first case, a natural impossibility - something we would not believe unless it was conclusively proven to us - is produced: "My neighbor's three-year-old child understands Russell's theory of types" (Grice & Strawson 1956, p. 159). This statement is unbelievable, but there is nothing logical that would prevent us from believing it. Were the three-year-old produced, and were she able to answer questions regarding the theory and criticize it, we would no doubt believe the truth of the apparently impossible statement.

The second case involves a logical impossibility: "My neighbor's three-year-old child is an adult." In this case, we might try to seek an aberrant use of words involved. However, if our interlocutor were to maintain that we should take her words at their literal meaning, we would eventually need to conclude that what she is saying makes no sense. Thus, argue Grice and Strawson, the difference between natural and logical impossibility is that of the difference between believing and understanding. In the first case, the alleged impossibility hangs on the fact that we cannot find it in ourselves to come about to believe in the statement. In the second case, no belief is involved since the alogicality of the statement bars us from understanding it. Thus, conclude Grice and Strawson, they have broken free of the circular family by attaching the difference between natural and logical impossibility to belief and understanding - neither of the concepts being included in Quine's family of necessity, synonymy and analyticity. (Ibid., p. 151.)

On these grounds, Grice and Strawson feel they have overturned Quine's arguments on analyticity. It may, however, be argued on the grounds of

White's paper that the condition of understanding is not lucidly enough stated. The notion of understandability raises similar questions of lucidity as did thinkability in the case of White's criticism of C.I. Lewis' epistemology.<sup>34</sup> Therefore, the second argument of Grice and Strawson leaves us at a kind of an impasse as regards GWQ: if we accept the condition of understanding offered by Grice and Strawson, we can break through the Quinean circularity. But if we exact Whitean standards, we cannot.

Grice and Strawson then turn to the second dogma. According to them, Quine's doctrine regarding empirical confirmation does not entail giving up the attempt to define statement-synonymy in terms of confirmation. Grice and Strawson insist that non-revisable statements are indeed revisable in the sense that the meanings of words may shift; "the form of words in question changes from expressing an analytic statement to expressing a synthetic statement" (*ibid.*, p. 157).

Grice and Strawson then claim:

The point of substance (or one of them) that Quine is making by this emphasis on revisability, is that there is no absolute necessity about the adoption or use of any conceptual scheme whatever, or, more narrowly and in terms that he would reject, that there is no analytic proposition such that we *must* have linguistic forms bearing just the sense required to express that proposition. But it is one thing to admit this and quite another thing to say that there are no necessities within any conceptual scheme we adopt or use, or more narrowly again, that there are no linguistic forms which do express analytic propositions. (Grice & Strawson 1956, pp. 157-158.)

There may indeed be statements that cannot be immediately classified as distinctly analytic or synthetic. But this does not mean such a division could not be entertained. The fact that such statements may exist does not entail that clearly analytic and synthetic statements do not. The brute fact remains: some statements simply are true regardless of any empirical evidence.

There may indeed be cases where the analytic-synthetic division is not applicable. But the fact that there may be such statements to which the distinction cannot be applied does by no means prove that no such statements to which it would apply exist. Thus, the argument for gradatedness, valid as it may seem, does not yet rule out the possibility of there being *also* clearly analytic and synthetic statements, in addition to statements that cannot be clearly assigned either category. While we may have considerable leeway in choosing a conceptual scheme, it can be argued that each conceptual scheme still contains some such presuppositions or assumptions that hold, come what may. Grice and Strawson show that while an exhaustive division of all imaginable statements into clearly analytic and synthetic ones may not be possible, rendering some statements as analytic, and others as synthetic, is (Grice & Strawson 1956, p. 158). Furthermore, such analysis may be of tremendous use.

To sum up, according to Grice and Strawson, GWQ demands too much of the concept of analyticity. Furthermore, there may be means to break out of Quine's circular family to define analyticity more precisely. And finally, while

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<sup>34</sup> See in particular p. 32 above.



there may be statements that are not clear-cut analytic or synthetic, insofar as there are ones that are, discarding the distinction is not warranted.

I shall accept Grice's and Strawson's contention that regardless of the indeterminateness of analyticity, it is a useful concept. To this end, I shall next set out to work upon clarifying it and making sense of in what exact sense the concept is useful, and in what fashion it can be used. I will first present a very concise definition of analyticity, given by Stenius. Then I will show, following Arnold Kaufman, how a shift in the approach to the actual activity of analysis can help us overcome many of the problems raised by GWQ.

### 2.2.2 The Definition of Analyticity

In "The Definition of Analyticity" (1972), Erik Stenius presents a persuasive and lucid account of analyticity in response to GWQ. He first expounds classical accounts on analyticity, citing Kant and Georg Henrik von Wright. Then he dissects these accounts and builds a case for knocking logical truths out of the category of analytic statements. Finally, Stenius delivers a concise logico-semantic criterion for discerning analytic statements.<sup>35</sup>

Stenius begins his admittedly monumental task by citing Kant's definition of analyticity, from *Prolegomena* §2:

Metaphysical knowledge must contain nothing but judgments *a priori*; this is required by what is peculiar to its sources. But whatever the origin of judgments and whatever the kind of their logical form, there is a difference between them as to their content, according to which they are either *explanatory* and add nothing to the content of knowledge, or *enlarging* in that they increase the given knowledge; the former can be called *analytic* judgments, the latter *synthetic* judgments. (Stenius 1972, p. 56.)

Kant's first *Critique* hung on the question of how synthetic a priori knowledge was possible. That is to say, Kant sought to establish that there was some way to increase our knowledge without the need to turn to experience. The critical difference between analytic and synthetic judgments was whether they simply explained our knowledge, or in fact increased it. Analysis is a process of breaking apart, whereas in synthesis a combination of elements takes place.

Stenius (1972, p. 56.) cites *Prolegomena* §2 further:

Analytic judgments say nothing in the predicate that was not already thought in the concept of the subject, though not so clearly and with equal consciousness.

The function of Kantian analytic statements is, then, to *clarify meaning*. They add nothing to what we already know, but rather render aspects of it explicit. We arrive at the concept of the predicate by an analysis of the concept of the subject.

<sup>35</sup> While Stenius (1972, p. 56) remarks that analyticity has never been adequately defined, there have been an abundance of at least attempted definitions since its introduction to contemporary discussion by Leibniz and Kant. Woléński (2004, p. 788 ff.), for example, lists over eighty different attempts at defining of analyticity; Stenius' position figures on the list as number 44. Stenius' position is, however, central to the present argument because it emphasizes the actual activity of analysis in such a way that, when coupled with Kaufman's pragmatic approach, allows us to salvage the notion from GWQ.

Analytic relationship means here, therefore, a relationship that arises from the act of analysis.

Stenius then points out the differences between the a priori and the analytic: the former refers to the source of knowledge, and is epistemological; the latter refers to the content expressed by a statement, and is thus semantic. The epistemological question is: "How do we come to know the truth of this statement?" The semantic question is: "What does this statement, if true, express?"

Kant's position of analyticity also includes truths of logic (Stenius 1972, p. 57). Thus, the Kantian concept of analyticity fulfills the following conditions:

- 1) The factual content of analytic statements is empty.
- 2) An analytic statement is seen to be true on the basis of an analysis of the concepts it contains.
- 3) All logical truths are analytic.

Stenius notes the mutual dependence of the above claims. He then quotes von Wright's definition of analyticity, which exemplifies the classical logical positivist position: "A sentence is called analytic when its truth follows from the meanings of the words it contains" (von Wright 1943, p. 18).

von Wright holds that analytic judgments concern exclusively the sphere of language. This position on analyticity is still well in line with the Kantian view. However, such a definition is, as is obvious, quite incompatible with GWQ. The recourse to meanings is incompatible since Goodman's argument. But Stenius does not rest with the positivist definition.

Stenius (1972, p. 59) reformulates von Wright's definition thus:

By an analytic sentence we understand a sentence which, by such substitutions as do not change its meaning, is transformed into a tautology in the sense of propositional logic.

Critical to an analytic statement is that it can be transformed into something that renders its special character explicit. As we shall see below, this has interesting consequences to defining analyticity. There are, however, also problems with such a definition, for example as concerns primitive notions such as 'red' and 'blue'. The analyticity of a statement involving such concepts depends on the mutual semantic relations between 'red' and 'blue'. (Ibid., p. 59.) The present notion still depends entirely on the notion of meaning, which has not so far been clarified.

Stenius next delivers the key item in his definition. He points out that while the transforming of a natural language statement to a logical proposition happens by analysis, establishing the tautology of a logical truth does not; it involves rather the quite different method of truth-value tables (ibid., pp. 59-60). The penny drops when Stenius remarks, "logical truths should, strictly speaking, not be called analytic at all - this term ought to be reserved for sentences like 'iron is a metal', which by semantic *analysis* are *transformed* into logical truths" (ibid., p. 60). Analyticity should not, then, include logical truths at all. Rather, analyticity is a property of such statements, which by proper substitutions can be transformed into logical truths.

Stenius follows Wittgenstein's lead in asserting that logical truths are tautologies. Stenius turns next to how we can know whether a proposition is tautologous. He notes, following von Wright, that the truth-value tables for connectives can be thought of as their definition. "The truth-value tables form a kind of definition, they show how certain signs are used" (ibid., p. 61). These definitions are not of the "equation" type usually thought of by logicians, but rather they resemble a kind of "ostensive" definition. They are not the shorthand Quine talks about in the second section of "Two Dogmas,"<sup>36</sup> but rather sets of rules that demonstrate the use of the connective symbols. The tautologousness of a statement depends on semantic conventions which regulate the use of language.

Stenius then offers his own first go at defining analyticity:

A statement is called analytic, if and only if, according to the semantic conventions for the use of certain of the symbols it contains, it is true whatever be the case. (Stenius 1972, p. 62)

Stenius notes that this definition is not yet sufficient because of confusion that may arise from the fact that there are at least two different accepted uses for 'truth.' Stenius defines these two uses as follows:

to establish the truth of a statement is to establish two steps, (a) to analyse it in order to find out its truth-conditions, and (b) to ascertain that these conditions are fulfilled. That a statement is true means in one sense just what is mentioned in step (b), that is, that its truth-conditions are fulfilled. I shall call this the *intensional* truth of the statement. That a statement is true means in another sense the partially semantic fact that the sentence *expresses* an intensional truth. I call this the *semantic* truth of a sentence. (Stenius 1972, p. 63.)

What Stenius is concerned with here is intensional truth. In other words, for each component expression resulting from the analysis of a statement, its individual truth value will need to be determined. After the individual truth values are known, the truth of the statement can be deciphered using truth value tables. In the case of analytic statements, all possible truth-value configurations of the components of the statement yield a true composite statement.

Stenius gives now the following definition of analyticity:

A statement is analytic if and only if, according to the semantic conventions for certain of the symbols it contains, it is true (in the intensional sense) whatever be the case. (Stenius 1972, p. 63.)

The fact that we can analyze such terms as 'red' and 'blue' means that we know how we use these words. We know and understand the semantic conventions that concern the use of such words. We learn such meanings by learning to divide objects to categories. That all semantic analyses should be reducible to truth-functional analyses is, according to Stenius, mistaken (Stenius 1972, pp. 63–64). All semantic analysis does is reveal the truth conditions of a statement. The actual truth still depends on the configuration of the resultant logical

<sup>36</sup> See p. 35 ff. above.

proposition and the truth values of its components. A logical truth is a true statement which remains true no matter how the components of the statement except the logical particles are reinterpreted.

It is, then, the analysis of the connectives that is sufficient to show that a statement is analytic. In order to state about any statement that what it says is true, we have to perform two steps: analyze it in order to find out its truth-conditions, and ascertain that these conditions are fulfilled. What is shown by analysis is not the truth of a statement, but a semantic fact about its truth-conditions. The semantic conventions referred to here concern mainly the relationships of terms determined by logical connectives and quantifiers. Instead of synonymy, Stenius offers a logico-semantic method to resolve analyticity. Analyticity depends, then, on the performing of an analysis on a statement of natural language.

There are caveats, however, as concerns predicate logic. Quantifiers, for example, cannot be defined by the truth-value table method. Furthermore, in many statements we must analyze the meanings of predicates. This leads us back to the problems of essential predication: how exactly do we analyze such things as predicate containment? This is precisely the problem invoked by GWQ: logical truths are not problematic, but arriving at them is.

In the end, Stenius' account fails to offer an account of analyticity that would survive GWQ. Construed this way, the Quinean would point out that it is exactly the act of analysis, and the involved semantic conventions, that we cannot properly define. We still have no access to a privileged set of rules or conventions that we could draw out when we analyze a statement into its components.

The idea that analytic statements are such that can be by analysis *transformed* into logical truths, however, enables us to craft a position on analyticity that is compatible with GWQ. How we produce a logical truth remains, however, unsettled. To resolve this issue, a more radical notion of the actual act of analysis is required. Such an account is provided by Arnold Kaufman.

### 2.2.3 A Pragmatic View on Analysis

In his response to White's 1950 paper, Arnold Kaufman repositions the question on analyticity. In "The Analytic and The Synthetic: A Tenable Dualism" (1953), Kaufman first observes, in the same vein later pursued by Grice and Strawson, that the existence of statements that do not clearly fall into the categories of analytic and synthetic does not automatically show the distinction to be untenable. He then scrutinizes the function of the analytic-synthetic cut. Subsequently, Kaufman observes problems involved with meaning. He finally concludes that analysis does not so much reveal meanings as it does fix them. Kaufman's conclusion is that meaning, whatever it is deep down, is indeed not accessible to us. But for the purposes of analysis, we can fix meanings, to facilitate the understanding of language.

According to Kaufman, two questions need to be answered in scrutinizing the analytic-synthetic distinction: what function it serves, and in case it is useful, how do we go about explicating it (Kaufman 1953, p. 423). He likens the

position of the illusoriness of the analytic–synthetic distinction to a situation where a person would refuse to take to the right-hand side of the road because there was no middle line on the road. In other words, the fact that there may not exist such a distinction in the actual use of language does not immediately render the distinction unusable for philosophical inquiry, let alone make it illusory.

Such distinctions as analytic–synthetic exist for the sake of inquiry (ibid., p. 424). That there are exceptions to the rule does not undo the rule as a general guideline. Most roads have a middle line; if a road does not have one, it does not release one from the responsibility to follow the rule to stay to the right. Kaufman also pays attention to the context-dependence of analyticity (ibid., pp. 424–425). That is to say, in some circumstances a certain statement may be analytic, whereas in others it may not be. But in analyzing statements in one discussion or other, using certain distinctions is essential to *fixing* meaning for the purposes of discourse (ibid., p. 425).

As a precursor to Donald Davidson’s principle of charity,<sup>37</sup> Kaufman points out that we cannot always be certain whether the meanings of words and sentences are fixed; but in communication we usually assume that this is the case. In determining meaning, our original purpose is not that of establishing synonymy, but that of communication (Kaufman 1953, p. 426). And in order for us to be able to communicate, we must entertain certain meanings of terms and statements in advance of using them. We cannot always be certain whether the meanings of our words and sentences are fixed; but in communication we usually assume that this is the case.

Kaufman’s critique ends with the notion that the “distinction between analytic and synthetic functions as a means of eliciting clearer formulations. We *make* sentences analytic or synthetic by *fixing the meanings* of component expressions.” (ibid., p. 426.) Thus, no hazy, psychologistic meanings are needed that may be subject to Quine’s critique in “Two Dogmas”. “True by virtue of meaning” simply means that we have, in observing the use of language, come to fix the meanings of statements and terms in a given fashion to facilitate analysis, and in this process of analysis can point out certain relationships that obtain between the components of these statements, that is to say that under any given circumstances the statement being analyzed will hold true.

We can never tell for sure, whether the people using certain terms and statements entertain the exact meanings we do. But for communication, and for analysis, no such certainty is required. The mathematician posits a point with no dimensions, and a line with no width – both abstractions that we never discover in nature. Similarly, analyticity and syntheticity are abstractions, or idealizations, not unlike these; concepts that we use to elucidate the use of language.

## 2.2.4 Summary

Grice and Strawson attempt to overcome GWQ by focusing on three key issues. First of all, GWQ seems to be exacting too high demands on the accuracy of philosophical concepts – demands that scarce few concepts can, in fact, meet.

<sup>37</sup> See Davidson (1974).

Second, while Quine does a thorough job in arguing for the circularity of the definition of analyticity, this does not mean that there would not be a way out of said circularity. By introducing the division of natural impossibility and logical impossibility, that coincide with belief and understanding, Grice and Strawson claim to be able to break through of the circularity. Finally, they note that while it is perfectly possible that there are statements that cannot be analyzed in terms of the analytic-synthetic cut, the dichotomy maintains its usefulness because many such statements do exist that can be clarified in terms of it. The second argument of Grice's and Strawson's leads to an impasse. The first and third, however, prove promising grounds for further development. In particular the notion of treating GWQ as a prelude to clarification gives us fertile grounds on which to root a definition of analyticity.

Such a definition is offered a decade and a half later by Erik Stenius. Stenius distances his definition from both the Kantian position and the logical positivists. He notes that the treatment of logical truth as analytic is not viable, owing to the fact that we come to know the analyticity of statements by semantic analysis, which presupposes logic. Furthermore, the position entertained by the positivists collapses because of the vague notion of meaning, as was demonstrated by GWQ. Instead, Stenius offers a position where analyticity is regarded as the property of such statements, which by semantic analysis can be transformed into logical truths.

Finally, to cement the argument we must go back two decades to Arnold Kaufman. Kaufman argues that analyticity arises only once we fix the meanings of natural language statements. This does not preclude that meaning could be variant in actual use of language, nor that there would be limiting cases or exceptions to the case. It means that in order to conduct productive inquiry, we must make some such lucid distinctions as analytic-synthetic. In analysis, we therefore transform statements of natural language to logical artifacts by fixing the meanings. Meanings themselves may be variant, but unless we maintain some clear distinctions in inquiry, there will not be the makings of heads nor tails of anything at all.

Once Kaufman's account is coupled with Stenius' definition of analyticity, a conception of analyticity arises that is to a great extent compatible with the central notions in GWQ. Analyticity is a conceptual instrument used to pursue philosophical inquiry. It is arrived at by abstracting from the statements used in natural language by fixing meanings. This notion is studied in greater detail below.

### **2.3 From Pragmatic Analyticity to Pragmatic Apriority**

In what follows, the pragmatic notion of analyticity, whose groundworks were laid above, is explicated in greater detail. Next, the role of apriority in GWQ is explicated. Finally, an avenue of inquiry compatible with GWQ for further study of a priori knowledge is elucidated. This will build the grounds for the second section of the present work where the nature and object of a priori knowledge is studied.

### 2.3.1 A Pragmatic Conception of Analyticity

Quine would have hardly disputed the truth of such statements as 'all bachelors are unmarried' or 'all ophthalmologists are doctors'. It is obvious that these statements, the very moment that we understand them, hold true no matter what. The tip of GWQ hits a different mark, that is to say, the question of how we come to understand 'bachelor' or 'ophthalmologist' in the first place. And while this is a very important question, it sidesteps the brute fact that we do understand them. Therefore we do need some account of what we customarily call analytic statements.

Defining analyticity in terms of necessity, synonymy or semantic rules is problematic, as was demonstrated by GWQ. Even Stenius' elaborate logico-semantic definition of analyticity leaves us wanting: how exactly do we go from a natural language statement such as "all bachelors are unmarried" to a logical proposition such as "all p are p"? There is, however, a pragmatic way to conserve the usefulness of the analytic-synthetic distinction, which avoids such circularity, allows vagueness in natural language, and yet does not need to posit gradation to analyticity.

If we adhere to Stenius' definition of analyticity, analytic statements are such statements of natural language that hold true come what may, because they can be transformed by semantic analysis into logical truths. The logical framework provides us with the tools to analyze a statement to find out whether its truth requires further empirical confirmation.

A statement is not a sentence, nor is it a proposition.<sup>38</sup> A statement is a linguistic unit used to express something. The meaning of a statement cannot be separated from it. Meaning, in the formal sense, is not so much a property of a statement than the *product of analysis* of it. In analysis, we *fix* meanings, as Kaufman stated. Once the meaning is fixed, natural language statements are *transformed* into logical truths, or into other logical artifacts, by analysis, as Stenius observed. Logical propositions are treated as artifacts that result from carrying out analysis on a statement of natural language. Logical truths, it should be noted, are subject to whichever logical framework we carry out the analysis in. In one logic, the product of analysis may look entirely different than in another. Various logics produce different logical truths from the same statements of natural language.<sup>39</sup>

<sup>38</sup> The sentence-proposition dualism is the cornerstone of analytic philosophy. Classically, it was held that a sentence is a group of words or other symbols arranged according to grammatical rules that expresses a proposition. A proposition is an abstract object that carries a truth-value. A proposition, in other words, is allegedly the meaning of the sentence. The origins of this distinction lie with Aristotle, and it has been supported most prominently in more contemporary philosophy by Frege (1892) and Russell (1903). This dualism is, however, untenable in the light of GWQ. If we cannot show the exact correspondence of natural language statements with propositions, such a distinction cannot be maintained. Therefore, the less technical notion of 'statement' is employed in the present work to refer to expressions in natural language.

<sup>39</sup> A central notion in the discussion on the plurality of logics is Rudolf Carnap's *principle of tolerance*. According to Carnap, there is no one true or correct logic, but that one may employ whatever logic that is useful for one's purposes. See e.g. Carnap (2002). For an in-depth analysis of logical plurality, see also Susan Haack's *The Philosophy of Logics* (1978).

Semantic analysis produces, subject to the chosen framework, a network of relationships, using which we can then establish predictable patterns in language-use. The product of analysis is an abstraction or idealization: a choice selection of aspects of language. A comparison to the mathematician's abstractions goes a long way to elaborate the point in case: while no perfect circles or dimensionless points exist in nature, they are still perfectly viable abstractions of what exists. As Hempel (1951, p. 211) notes, concepts such as 'analytic' and 'synonymous', when used in the vocabulary of syntax and semantics, serve "in the formulation of definitions and rules determining precise linguistic systems, which can at best be idealized theoretical models for certain aspects of natural language."

Natural language cannot be neatly split into analytic and synthetic statements – there is, in natural language, always some gradation, as GWQ shows.<sup>40</sup> But the existence of such gradation does not entail that the analytic-synthetic division would be a bad abstraction of language use. While meaning is likely to be indefinitely gradated in natural language, describing all the variations in meaning is utterly impractical for purposes of understanding and establishing correlations within the use of language.<sup>41</sup>

Natural language is complex beyond any analysis: the perfect analysis of a language would simply be a copy of the language, analogically to Jorge Luis Borges' famous cartographers, who, in constructing the perfect map of an empire created an exact copy of it (Borges 1998, p. 325). Thus the Leibnizian programme of discovering the *characteristica universalis* fails, but so does the hardest edge of GWQ. Even though language is complex beyond reductive analysis, this does not mean that language would be beyond the grasp of abstractive analysis.

Introducing too many variables to our distinctions will, following Stenius, only lead to "intellectual poverty rather than clarity" (Stenius 1972, p. 55). To this end, utilizing sharp dichotomies to classify statements offers a tremendously useful tool to facilitate understanding. Using these dichotomies does not mean that we posit their one-to-one correspondence with natural language; but only that they correspond well enough to warrant our using them for purposes of elucidating meaning.

In this light, we can carry out a semantic analysis on an allegedly analytic statement, such as "all bachelors are unmarried men." In so doing, we can, for example, abstract it to the logical form "all p are p." Subsequently, we discover a peculiar feature of the (generic) use of such a statement: it cannot fail to be true under any imaginable circumstances. We discover that we have, in general, made a peculiar resolution to stick to using these words in this fashion. We

<sup>40</sup> This intuition was shared even by Carnap, as is shown in the following fragment from March 1933, here quoted from Quine's "Two Dogmas in Retrospect" (Quine 1991, p. 266): "Is there a difference in principle between logical axioms and empirical sentences? [Quine] thinks not. Perhaps I seek a distinction just for its utility, but it seems he is right: gradual difference: they are sentences we want to hold fast."

<sup>41</sup> Since 1970's, substantive empirical evidence has been produced to show that meanings vary a great deal in natural language. See e.g. Rosch (1973, 1975a, 1977). This position has also been embraced by many prominent philosophers, most notably by the later Ludwig Wittgenstein (2001), from whose work Rosch's empirical research has drawn a great deal.



would not accept a married bachelor under any circumstances; such a conception is practically nonsensical to us.

What was said above does not mean that we express “all p are p” when we say “all bachelors are unmarried men.” What we express is utterly more complex; but what is thus expressed is analyzable, consistently *transformable*, into the logical truth “all p are p.” When one understands that “all bachelors are unmarried men” is analytic, what is actually understood are the operational conditions regarding the use of the words ‘bachelor’ and ‘unmarried man’ in our practices. In coming to realize that we so do use the terms – and that we are determined always to keep on doing so – we understand that there is a correlation between ‘bachelor’ and ‘unmarried man’ that holds without exception. It is not a definition of ‘bachelor’ as ‘unmarried man’ that tells us this, but the observation of the use of those terms in practice. This understanding is what gives legitimacy to our process of analysis.

The question to consider here is not, then, whether there are such things as analytic statements. In an absolute sense there are no such things: there are only, following White, statements that are more or less analytic. Natural languages don't have rule-books. They do, however, have structurality that can be approximated in a system of rules, the rules representing the generic use of a given linguistic structure. That doesn't mean that there would not be exceptions to a rule, but it does imply that if you take a big enough sample from a language, it tends to converge towards that rule.

The concepts of analyticity and syntheticity function as abstractions whose function is to facilitate philosophical elucidation and discussion. They are not descriptions of actual language-use, but rather abstractions thereof. When carrying out semantic analysis, we produce logical artifacts that enable us to understand language use better. And just like analyticity can be considered an abstractive semantic concept, it turns out that apriority can in similar abstract fashion be salvaged as a useful epistemological concept. Let us now take a look at the role of apriority in GWQ, and subsequently at how the notion of apriority can be salvaged in a similar manner to what was said above.

### 2.3.2 Apriority in GWQ

Until now, the discussion has focused solely on the notion of analyticity. I chose this focal point because it was the explicit notion GWQ addressed. It can, however, be argued that the actual target of GWQ is not so much analyticity as apriority. Many critics, most notably Stenius (1972) and Putnam (1983) have even pointed out that in the light of how analyticity is nowadays construed, GWQ does not actually even stand so much against analyticity, as it does against apriority.<sup>42</sup>

A concise a priori reading of GWQ can be found in Hilary Putnam in his “Two Dogmas Revisited” (1983). Putnam criticizes the classical interpretation of Quine’s “Two Dogmas” – circularity of defining analyticity – for over-

<sup>42</sup> See also Bird (1961, p. 228). Some critics, such as Soames (2003, pp. 360–361), have even gone as far as to maintain that GWQ fails if the equivalence of analyticity and apriority is disproved.

simplifying the issue. According to him, the sharpest edge of GWQ hits, in fact, apriority, not analyticity.

Putnam makes two distinctions for analyticity:

- 1) The linguistic notion of analytic truth as that whose negation is contradictory.
- 2) The notion of analytic truth as that which is true no matter what.

The former corresponds to the analyticity of (Q1), whereas the latter fits better with the role of analyticity in (Q2). Putnam argues that the latter conception does not, in fact, concern analyticity at all, but rather apriority (Putnam 1983, p. 87).

Putnam begins his analysis of the arguments of "Two Dogmas" by observing that the notion of circularity in defining analyticity may not even be a very strong argument. It may be the case that analyticity belongs to a family of linguistic notions that are not reducible to other, non-linguistic notions. Next, Putnam addresses Quine's issues with synonymy, claiming that Quine's argument is weak because it is effectively based on the notion that *Quine himself* cannot clarify synonymy.<sup>43</sup> Also, as Putnam points out, following in the footsteps of Grice and Strawson, there are several philosophical notions that do not enjoy a clear, consensual definition. On these grounds an attack based on the indefiniteness of synonymy is, according to Putnam, unwarranted.<sup>44</sup>

Finally, Putnam notes, "There are analytic truths; truths by *logic and language*. But analytic truths are not *unrevisable* (no truth is). They are only unrevisable *unless we revise the logic of the language*, which is a very different matter." (Putnam 1983, p. 97.) If the logic of the language being analyzed can be revised, no analytic truth can be known a priori in the classical sense – that is to say, known infallibly and necessarily. Insofar as a priori knowledge is construed in the classical sense, it is thus separated from the notion of analyticity. The linguistic approach to analyticity should be salvaged on the grounds of its usefulness as a philosophical concept. The notion of apriority, it appears, cannot, however, survive GWQ.

To show the untenability of apriority in the context of GWQ, Putnam turns to the "second dogma," verification theory and reductionism. Putnam conjectures that the explicit target of GWQ was analyticity because Quine took his notion of analyticity from the logical positivists. The positivists held that to fix a statement's range of confirming experiences means fixing its meaning.

<sup>43</sup> Here it should be noted that Putnam ignores the groundwork laid by Goodman and White, which of course lends a great deal of weight to Quine's argument.

<sup>44</sup> Putnam addressed the issue of synonymy also in an earlier paper, "The Analytic and The Synthetic" (1962). In this paper he outlined a theory to explain analyticity of definitional statements. Putnam's position is that the key to understanding definitions such as "all bachelors are unmarried" is that there is an exceptionless law associated with a given term, such as 'bachelor'. That is to say, something is bachelor if and only if it is unmarried. Putnam also argues elsewhere that his idea of *stereotypes*, introduced in "The Meaning of 'Meaning'" (Putnam 1975), provides an account of synonymy for at least natural kind words.

Therefore, for the positivists, analyticity and apriority coincided without exception.<sup>45</sup>

The positivist sense of confirmation has, however, an intimate relationship with rational belief: "A statement which is highly confirmed is a statement which it is rational to believe, or rational to believe to a high degree" (Putnam 1983, p. 90). Now, if there are statements that have the maximum degree of confirmation in all circumstances, then these are simply truths which it is *always rational to believe* – whose doubt is never rational. Such truths, according to Putnam, are a priori knowable truths: they are true, no matter what. That both positivists and Quine took this to be equivalent with analyticity is, according to Putnam, erroneous, and based on a misconstrual of analyticity. If the certainty of a statement is, in fact, a matter of belief, it is a question of epistemology, not semantics. Therefore, (Q2) should be set in terms of a priori knowledge, rather than analyticity.

Putnam re-phrases Quine's contention concerning analyticity. Instead of claiming there to be no sensible distinction between analytic and synthetic truths, Putnam holds that Quine should have expressed the claim "by saying that there is no sensible distinction between *a priori* and *a posteriori* truths" (ibid., p. 88).<sup>46</sup> This arises from Quine's conceptual holism. As Quine later noted:

the lore of our fathers is [...] a pale grey lore, black with fact and white with convention. But I have found no substantial reasons for concluding that there are any quite black threads in it, or any white ones. (Quine 1966a, p. 125.)

No belief enjoys purely a priori or a posteriori justification. The matter of justification is always holistic, dependent on auxiliary beliefs and commitments. The matter of justifying a belief is always a matter of degree. No a priori justifiable beliefs can exist. Therefore, the notion of a priori knowledge collapses.

The final nail in the coffin of a priori knowledge seems to be the evolution of conceptual schemes. As an example, Putnam singles out Euclidean geometry. He notes that despite its seeming to hold a priori for more than two millennia, it later turned out it was always revisable. Therefore, it could not have constituted a priori knowledge at any time, since a replacement *could* be found. Putnam notes: "The special status of logical laws is similar, in my view; they are contextually *a priori*" (Putnam 1983, p. 95). As Putnam notes, we "never have an absolute guarantee that we are right, even when we are" (ibid., p. 96). To have true a priori knowledge in the classical sense would require for us to be certain that the logic we use coincides perfectly with the structure of the world. We can never reach such certainty.

Because GWQ inherited its central terminology from the logical positivists, its arguments against analyticity are equally arguments against a priori knowledge. *A fortiori*, the argument (Q2) is *specifically* an argument against a priori knowledge, and not analyticity semantically construed, owing to the fact that it concerns primarily beliefs.

<sup>45</sup> See, for example, Ayer (1946, p. 5 ff.).

<sup>46</sup> This sentiment is also shared by Stenius, who holds that it is more reasonable to think that apriority is a matter of degree than to think so of analyticity (Stenius 1972, p. 57).

We can conclude on the grounds of GWQ that analyticity and apriority, in such form as they were construed up to the Vienna Circle, are not tenable concepts. In the strictly dichotomous sense the concepts were employed by the logical positivists, they cannot survive GWQ. However, it was shown that by the adjustments specified above, a pragmatic use for analyticity could be salvaged. By employing a similar argument, it can be argued that also a use for the a priori – a posteriori distinction can be retained. I shall now turn to this argument.

### 2.3.3 Post-GWQ Apriority

Classically a priori knowledge was thought to be infallible and necessary. In the light of what has been said, it appears that there is no such knowledge that is infallible: justification is always a matter of degree. We cannot be certain that we know the truth even when we do. There remains, however, an avenue of inquiry that allows us to overcome this predicament.

Apriority can be construed as a similarly abstractive concept as has been done with analyticity above. Analyticity is a concept whose use lies in its rendering some such generic regularities explicit that obtain in our language use. It can likewise be argued that a priori knowledge and a posteriori knowledge reflect two opposites on a scale of a degree of certainty rendered to the justification of beliefs.

What we are most likely to know independently of experience is what is, in Quinean terms, most remote from the empirical edge of the conceptual scheme. What is most subject to revision is what resides at that edge. While there exists gradation to the degree of justification lent to beliefs, in order to clarify philosophical investigation, we may benefit from clear dichotomies. By adopting a dichotomy, albeit in the abstract, we facilitate philosophical work that saves us from intellectual poverty.

As an analogy, consider the color spectrum. Where does red end, and orange begin? We may arbitrarily draw a limit somewhere, but *in reality* the color spectrum is gradated all the way. It is impossible to say, whether a shift of a Terahertz or two would make a clear distinction between the redness or the orangeness of a specific frequency. The classification of a particular segment of the spectrum depends on the context. Should we, then, abandon ‘red’ and ‘orange’, because they do not precisely correspond with what’s out there? The demand for such precision is, in practice, never met by *any* concept.<sup>47</sup>

The notion of apriority functions as a working approximation of one end of a scale of the strength of justification, a scale in which one end blends into the other, just like with colors. While it stands good to reason that in reality there

<sup>47</sup> Even Quine’s idea of holistic conceptual schemes can be shown to lead to a similarly abstract scheme-content dualism, dubbed by Davidson (1973) the “third dogma of empiricism.” While Quine wanted to free us from the sentence-proposition dualism, what he offers in its stead is in fact subject to the exact same issues as was the target of his critique. The scheme-content dualism hits a similar obstacle as the sentence-proposition dualism, that is to say, that it is impossible to make any clear distinctions as to how much a conceptual scheme and how much the facts dictate the meaning of a given term or statement.

are no such clear divisions, the thing is that in reality there are likely to be *no* clear divisions; you can always redraw the borders.

Such a notion of a priori knowledge as is defended here is perfectly compatible with GWQ. A priori knowledge concerns such beliefs that are most central in a conceptual scheme. Since the scheme is gradated through and through, a priori knowledge pertains, then, to some abstraction from this scale: to what is best guarded from recalcitrant experience. On the scale, some statements can be, somewhat stipulatively, ruled to be known a priori, others a posteriori. And as is the case with any gradual scale, there may be statements whose nature cannot be unequivocally decided. As Grice, Strawson, Stenius, Kaufman, as well as Bennett (1959), Sullivan (2008) and countless others hold, this should not hinder us from using these abstractions, insofar as they serve our efforts of philosophical inquiry.

By adopting this abstractive notion of a priori knowledge, we can also re-establish the coextensivity of analyticity and apriority. Insofar as semantic analysis functions as the *justification* of a priori knowledge, what is known a priori concerns, then, analytic truths. Within a given conceptual scheme, certain statements can be transformed by analysis into truths that hold come what may.

The actual activity of analysis is non-experiential in the sense that no part of the process of semantic analysis requires sensory corroboration, testimony or introspection. Therefore, semantic analysis suffices to justify a priori knowledge: if an analysis yields a truth that holds under all possible circumstances, the truth of the statement analyzed is known solely on grounds of the analysis. It qualifies, therefore, as a priori knowledge on the grounds of the definition (AP) given in 1.3.

The classical notion of a priori remains, however, untenable. No statement is immune to revision: even the laws of logic may be revised.<sup>48</sup> Thus, whichever statements can be known a priori depends intrinsically on both the prevailing conceptual scheme, as well as the chosen logical framework in which the analysis is carried out. If the conceptual scheme changes, some of a given statement's truth-conditions, and thus its meaning, may change too. In other words, the way they are interpreted in analysis will change. Likewise, even if the conceptual scheme remains unchanging, the choice of analytic framework will affect whether a given statement can be analyzed to reflect a logical truth.

The concepts 'analyticity' and 'apriority' function as conceptual abstractions or idealizations whose function is to facilitate philosophical elucidation and inquiry. They are not exhaustive descriptions of actual language-use or epistemic conditions, but rather abstractions thereof. In carrying out an analysis of the vague, holistic structure that is natural language, we resort to making such artificial distinctions in order to clarify our understanding.

While the analytic-synthetic and the a priori - a posteriori distinctions fall short of the target as *exact* descriptions, and certainly in their classical form attribute too much rigidity to language and knowledge, it does not mean that these distinctions would not be tremendously useful in describing some aspects of language and knowledge. They provide us, as the history of philosophy shows, with an effective conceptual framework in which to address features

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<sup>48</sup> This argument is addressed in detail below, in chapter 3.2.5 ff.

central to language and knowledge. Like color concepts abstract a range of electromagnetic radiation into fixed concepts, the concepts of analyticity and syntheticity, apriority and aposteriority abstract a range of linguistic practices and epistemic conditions, respectively.

### 2.3.4 Summary

While it cannot be held on the grounds of GWQ that natural language could be neatly segregated into analytic and synthetic statements, it can be argued that for the purposes of inquiry, such distinctions can be made in the abstract. This leads to a pragmatic conception of analyticity: an analytic statement is such that can be transformed in a logically consistent analytic framework, by fixing the meanings in the language, into a logical artifact, solely on the grounds of which we may determine its truth.

While GWQ explicitly targets analyticity, it has immediate consequences to the notion of apriority as well. As it turns out, GWQ deals a killing blow to the classical infallibilist notions of a priori knowledge. First of all, justification of beliefs is always gradated on the grounds of Quine's conceptual holism. Therefore, no belief enjoys strictly a priori or a posteriori justification. Second, our conceptual schemes may always change, and consequently those things that could be known in one conceptual scheme a priori may not enjoy such a degree of indisputability in another.

The notion of apriority may, however, be salvaged in a similar manner as that of analyticity. A priori knowledge is an abstraction on the epistemic scale concerning the strength of justification. A priori knowledge concerns such beliefs that are best guarded against recalcitrant experience.

Furthermore, a priori knowledge can be justified by semantic analysis. A priori knowledge concerns such truths that can be known independently of experience. Regardless of the fact that there is variance of such statements reflexively to conceptual schemes, we may, once the conceptual scheme has been fixed and an analytic framework chosen, attain knowledge of the truth of some statements a priori. We may know a priori the truth of those statements that can be in a consistent logical framework analyzed into some such logical artifact that will demonstrate that they hold true, come what may.

The analytic-synthetic cut and the a priori - a posteriori cut become heuristic conceptual tools with which we may abstract some such regularities that obtain in our use of concepts, and subsequently better understand how our conceptual schemes are structured. They do not tell us how things stand in themselves - but they abstract from the way things stand in order to render explicit some such structurality that actually exists in the way we use language and concepts.

In this light the question of whether analyticity and apriority are *precise* concepts becomes redundant, and the interesting question becomes that of whether they are *viable* concepts. That is to say, if they are useful for some of our purposes of philosophical inquiry. To this question, the answer is an emphatic "yes." Obviously there are statements that are true, come what may. After all, all bachelors *are* unmarried.

## 2.4 Concluding Remarks

GWQ forms one of the most formidable anti-apriorist accounts ever presented. GWQ itself targets analyticity, but while at it, it manages to convincingly show the unviability of any such first principles that might constitute analytic truths or a priori knowledge. According to GWQ, analyticity cannot be established owing to the gradated and holistic nature of meaning in natural language.

Two arguments from Grice and Strawson can be utilized as the foundation of a position on analyticity that is compatible with GWQ. They hold, first, that the demands exacted by GWQ of the analytic-synthetic cut are such that practically no philosophical concepts can survive them. Therefore, GWQ should, in fact, function not as the demolition of the concept of analyticity, but as a prelude to clarification of it. Second, while there may not be a clear division of all statements to analytic and synthetic ones, the fact that some statements obviously can be so divided defends the usefulness of the notion.

Embracing GWQ as a prelude to clarification, the accounts of Stenius and Kaufman can then be rooted on the soil tended by Grice and Strawson. According to Stenius, analysis should be seen as a transformative activity that produces logical truths. On the grounds of Kaufman, we can show that while natural language remains vague, for the purposes of analysis we may fix meanings so as to produce the logical artifacts needed to elucidate language. Therefore, a pragmatic notion of analyticity is salvaged.

Pragmatically, analyticity is construed as an abstract property of statements that we can detect by analysis in order to make sense of some such regularities that obtain in natural language. The result of analysis depends on one hand on the language being analyzed, and on the other, on the logical framework utilized. Therefore, no absolute analyticity can be argued for – but with respect to a particular logical framework, a language under scrutiny can, abstractively, be segregated into statements whose truth is knowable on grounds of semantic analysis, and statements knowable only by further empirical corroboration.

While a notion of analyticity can be salvaged in this fashion, it appears that GWQ does show the untenability of apriority. The justification lent to beliefs is gradated throughout a conceptual scheme. Therefore no clean division to a priori justified and a posteriori justified beliefs can be made. Furthermore, because conceptual schemes may be revised, we have no such grounds on which we could argue in favor of unchanging first principles.

The notions evoked in defense of analyticity may, however, be now used to defend apriority as well. While beliefs may receive varying degrees of justification, and this justification will, on grounds of GWQ, be gradated, it may be argued that in the similar way as we can abstract analyticity and syntheticity by performing semantic analysis on a linguistic scale, we may abstract apriority and aposteriority on an epistemic scale according to the degree of justification lent to beliefs. Just like analyticity arises reflexively to the chosen analytic framework, apriority arises reflexively to the chosen conceptual scheme.

Furthermore, a connection between the act of analysis and a priori justification may now be re-established. The semantic analysis of a statement is

a non-experiential activity. Semantic analysis of a statement does not require any of the three facilities specified in chapter 1.3 as experiential justification: empirical corroboration, testimony or introspection. If semantic analysis alone establishes the truth of a statement, its truth can be known nonexperientially. Therefore, beliefs whose truth is justified solely on grounds of semantic analysis satisfy the definition of a priori knowledge given in chapter 1.3:

(AP) A priori knowledge is knowledge whose justification is nonexperiential.

The first question presented in chapter 1.3 was: "Is there a priori knowledge?" The answer is affirmative. There are statements whose truth is knowable a priori. They are knowable a priori because by performing semantic analysis on them we may abstract a logical artifact on the grounds of which we may determine that the statements hold true come what may, insofar as the present conceptual scheme is concerned.

There are, however, issues that need to be clarified. It appears, first of all, that a priori knowledge is reflexive to a conceptual scheme. Whether such a notion of a priori knowledge can, in fact, be defended demands further study. Secondly, it is yet unclear what is the object of a priori knowledge. Is a priori knowledge limited to knowledge about language or concepts, or does it have a deeper metaphysical dimension to it? In other words, does a priori knowledge concern the logical structure of the world – or is it limited to our conventions and practices? These questions demand further scrutiny. I shall, therefore, now turn to study the nature and object of what can be known independently of experience.



### 3 THE PRAGMATIC A PRIORI

There are statements whose truth we can ascertain without turning to experience: all bachelors are unmarried, and two plus two equals four, hair-splitting aside. The problems raised by GWQ are, however, fatal to the classical, infallibilist a priori positions. Since even the most fundamental conceptual principles can be changed by making sufficient changes elsewhere in the conceptual scheme, practically no infallible conceptual principles can be defended. The solution to the nature of a priori knowledge needs therefore a new perspective. It is the purpose of the remainder of the present work to introduce such a perspective.

In what follows, much of the discussion relies on the works the American pragmatist philosopher Clarence Irving Lewis, and in particular on his two epistemological monographs, *Mind and the World Order* (1929, MWO) and *An Analysis of Knowledge and Valuation* (1946, AKV). Lewis' intensional semantics, in particular as laid down in AKV provides us with a powerful analytic framework which can be used to perform analysis and justify a priori knowledge. Furthermore, Lewis' epistemological theses defended in both AKV and MWO shed further light to the nature and object of a priori knowledge.

Lewis argues that a priori knowledge concerns exclusively the concepts we employ in making sense of experience. In Lewis' epistemology, concepts are construed as anticipatory schemata that guide our attention in what we experience. Lewis argues that a priori knowable conceptual principles are necessary because they are legislative to experience: their necessity arises from our commitment to them in the face of all experience. Their application, however, is ultimately volitional. Therefore, there is always an element of choice involved in committing to a conceptual principle. According to Lewis, the criteria of making such a choice are ultimately pragmatic. Because a priori knowledge targets concepts, and the choice of concepts is ultimately pragmatic, the fundamental nature of a priori knowledge is pragmatic: dependent of such criteria as comprehensiveness, simplicity and expediency.

It must be noted that Lewis' approach alone will not stand against GWQ.<sup>49</sup> To this end, the pragmatic notion of analyticity and apriority introduced above is needed in order to reinstate Lewis' position as a viable solution to the problem of a priori knowledge. When Lewis' analytic framework is construed as a heuristic device on grounds of which we may abstract regularities that obtain in our conventions, the problems evoked by GWQ dissolve. We can then benefit from the analytic nature of Lewis' position, all the while acknowledging that this method of analysis, just as any, abstracts from the object of study instead of reductively and exhaustively describing it.

It must also be noted that while Lewis' position opens up important perspectives to the question of a priori knowledge, the terminology he employs is often out-dated and inconsistent with contemporary usage. Therefore, I have adjusted his terminology where needed so as to facilitate its compatibility with contemporary discussion on a priori knowledge. I have simplified and clarified Lewis' terminology, and introduced novel distinctions where necessary for elucidatory purposes.

The present section is laid out as follows. First, the details of Lewis' analytic framework, intensional analysis, will be studied. Then Lewis' notion of concepts and the conceptual scheme is explicated. This is followed by a detailed study of conceptual principles as the object of a priori knowledge which culminates in an argument defending the pragmatic nature of a priori knowledge. Finally, a number of possible objections that may be raised against the present position are studied. These include direct criticism of Lewis, objections that may arise when Lewis' position is contrasted with other positions on a priori knowledge and objections that concern Lewis' intensional analysis and semantics. Solutions to these objections are proposed, and tentative directions for further investigation are suggested.

### 3.1 The Analytic and the A Priori

According to Lewis, a priori knowledge arises from the analysis of concepts (Lewis 1929, p. x). If a concept is attributed to another concept in a statement, and we can by analysis demonstrate that such attribution takes place under all possible circumstances, we come to know the truth of the statement. Consequently, the analysis of concepts functions as justification of a priori knowledge. We need, therefore, an account of what exactly such an analysis means. In *An Analysis of Knowledge and Valuation* (1946), with its definite and explicit account of analyticity and the a priori we are presented with a concise account of pragmatic semantic analysis: intensional analysis.

As was argued above, no individual method of analysis explicates natural language exhaustively. But various methods can be utilized to explicate regularities that obtain in a language, and consequently to justify knowledge of a certain class of statements - those which call for no further empirical

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<sup>49</sup> Lewis was, in fact, one of the main antagonists targeted by GWQ. While he is explicitly targeted only in White's paper out of the three GWQ papers, his significance to the argument is explicit in the GWQ correspondence.

corroboration.<sup>50</sup> We cannot exhaustively enumerate all the properties of a statement of natural language. But semantic analysis provides us with a heuristic tool with which we may abstract common regularities that hold therein. Even if there are exceptions in actuality, a distinct analytic–synthetic cut can be heuristically maintained as the general rule of classifying statements. The question arises then as to which analytic framework best serves our interests.

The method of choice for the present work is the intensional semantics developed by Lewis. The reason to adopting Lewis' framework is that it allows a sufficiently high detail in rendering explicit the intensional relationships between terms. By performing intensional analysis, we are able to carry out sufficiently detailed analysis of predicates so as to demonstrate such notions critical to analyticity as predicate containment. In addition, it enables us to analyze even the most fundamental conceptual principles, such as the laws of logic. In Lewis' framework, by rendering explicit the intensional structure of a term, it may be demonstrated whether or not another term is thus intensionally contained within it. Therefore, grounds for analyticity, and subsequently for apriority, are fortified considerably, compared to were we to remain in the realm of purely extensional semantics.<sup>51</sup>

There are six items that are critical to Lewis' notion of analyticity and apriority, items whose scrutiny will explicate both the nature of analytic statements and the fact that we can know what such statements express a priori. These six items concern *analytic truth*, *intensional meaning*, *linguistic and sense meaning*, *the analyticity of logic*, *logic's relationship to other analytic statements*, and *the rejection of synthetic a priori*. They are described by Lewis as follows:

- (1) In general, the traditional conception of analytic truth as truth which is determined, explicitly or implicitly, by meanings alone, is justified and can be made adequate, and does not need to be displaced by any which is more complex.
- (2) The requisite meaning of 'meaning' can be arrived at by more precise specification of what is traditionally intended by 'connotation' or 'intension' and by developing the conception – traditionally omitted or inadequately treated – of the intension of propositions.
- (3) Such intensional meaning can still be specified in alternative ways: as *linguistic meaning*, constituted by the pattern of definitive and other analytic relationships holding between linguistic expressions; or as *sense meaning*, constituted by the criterion in mind by which what is meant is to be recognized.

<sup>50</sup> This position was, in fact, explicitly supported by Lewis: "I should like to express my conviction that if there be any one analysis of meaning in general which is correct, then any number of other analyses will be possible which are equally correct: for much the same reasons that if any set of primitive ideas and primitive propositions are sufficient for a mathematical system, then there will be any number of alternative sets of primitive ideas and propositions which likewise are sufficient." (Lewis 1943, p. 236.)

<sup>51</sup> It must be noted that the question of adopting intensional semantics over extensional is a highly convoluted one, and remains the topic of much debate. Many of the problems evoked by GWQ arise from the notion of intensions, or senses. Quine, for example, was profoundly committed to extensionalism (see e.g. Quine 2008). The rationale for Lewis' adopting and developing intensional semantics is explained in 3.2.1. For discussion on intensional logic and semantics, see e.g. Fitting (2007). As was mentioned, the pragmatic adjustment to the notion of semantic analysis is critical in order for Lewis' (and possibly any intensional) method of analysis' surviving in the post-GWQ terrain.

- (4) The principles of logic are analytic in this sense: their truth is certifiable by reference to intensional meanings involved in the statement of them.
- (5) There is, however, no way of distinguishing fundamentally between principles of logic and other analytic truths. Such distinction is conventional, in the sense that it turns upon relative importance for the critique of inference, and upon comparative generality. There are, thus, alternative ways in which what is taken as belonging to logic may be marked off.
- (6) There are no synthetic statements which can be known true *a priori*: what may appear to be such, must be regarded as representing some failure to elicit by analysis the criteria operative in the actual, or the ideally consistent, application of terms in question, or some failure to recognize implications which validly obtain. (Lewis 1946, pp. 37–38.)

To justify (1), a detailed notion of meaning is required. This is provided by Lewis in the way he conceives of the *intension*. Lewis holds that intensional meaning may be characterized in two ways, neither of which reductively explains intension, but both of which are ways to abstractly explicate its nature. *Linguistic meaning* is meaning as formally construed, that is to say as a relationship of a term to other terms. *Sense meaning* is in turn a pragmatic and operative construal of meaning. Both are needed to fully explicate intensional meaning.

By intensional analysis, we may also establish the analyticity of logic itself. Logical truth arises from similar intensional relations as does the truth of analytic statements. Furthermore, if logical propositions are indeed only a class of analytic statements, they are consequently in no fundamental way different from other analytic statements. Finally, synthetic statements that appear to be knowable *a priori* are in fact implicitly analytic statements, where we have failed to establish some such relationship between terms that obtains intensionally.<sup>52</sup>

The intension is the critical analytic notion for both Lewis' semantics and epistemology in general, and his conception of *a priori* knowledge in particular. Before turning to the particulars of the Lewisian concept of the intension, I will, however, first address Lewis' account of meaning in general.

### 3.1.1 The Modes of Meaning

The extension of a term is the class of entities it refers to, or denotes. The intension of a term is the conjunction of all the terms that apply to anything denoted by the term; what the term connotes. Quite a few contemporary thinkers have emphasized the *extension* as primary to the determination of meaning.<sup>53</sup> Meaning is, however, much more complex than the question of

<sup>52</sup> While Lewis draws heavily from Kant in both his epistemology and semantics, he digresses here radically from him. This topic will be addressed in greater detail in chapter 3.1.6.

<sup>53</sup> Extension was central to, among others, to Goodman, White and Quine, and figures prominently also in the semantical work of Putnam (1975), and arguably even Kripke (1980). The forefathers of extensional logic are, no doubt, Russell and Whitehead (1910). It may also be contended that while the intension, or connotation, was included in the works of e.g. Mill (1868) and Frege (1892), the extension was the primary component of meaning also for them.

reference to existent entities. This is clear the moment we start to consider such terms whose extension is null, such as terms comprehending fictitious entities. Obviously 'Sherlock Holmes' and 'centaur' do not *mean* the same, even if their extension is identical, that is to say, null.

Lewis shied away from Russell's commitment to extensional logic and semantics.<sup>54</sup> He rather wished to shed light to meaning in terms of intensions: "The requisite meaning of 'meaning' can be arrived at by more precise specification of what is traditionally intended by 'connotation' or 'intension'" (Lewis 1946, p. 37).

First introduced in a paper bearing the same name, *the modes of meaning* are Lewis' way to differentiate between different uses we have for the concept of meaning (Lewis 1943). Lewis differentiates in entirety four modes of meaning for a term. These are as follows:

- (1) The *denotation* of a term is the class of all actual things to which the term applies.
- (2) The *comprehension* of a term is the classification of all possible or consistently thinkable things to which the term would be correctly applicable.
- (3) The *signification* of a term is that property in things the presence of which indicates that the term correctly applies, and the absence of which indicates that it does not apply.
- (4) Formally considered, the *intension* of a term is to be identified with the conjunction of all other terms each of which must be applicable to anything to which the given term would be correctly applicable. (Lewis 1946, p. 39.)

The denotation, or extension, is the class of all actual existent things that a term correctly names. The extension of 'cat' is the class of all existent cats. As concerns extension, Lewis does not deviate greatly from what has been generally been said about it, apart from dethroning it from its semantically privileged position. Lewis' position on extension, thus, roughly corresponds with the positions of classical descriptivists such as Frege and Russell, and coincides also mostly with more radical extensionalists such as Quine and Goodman. Thus, Lewis' notion of extension can be construed as the definite class of existent entities that are denoted by a term, i.e. the objects the term refers to.

The comprehension of a term is the classification of all consistently thinkable things to which a term would be applicable, whether they exist or not. Thus, while the extension of 'centaur' is null – and it would, then, be meaningless in a strictly extensional theory – the comprehension of it is not. The comprehension of 'centaur' is a classification, or a determination, of what a thing should be in order for it to be a centaur. Thus, terms such as 'centaur', 'unicorn' and 'the present king of France' have a comprehension other than null: we can imagine a world, where there could be such entities. Only terms that could not consistently name anything, such as 'a square circle' and a 'spot that is red and green all over', have a null comprehension.

In a sense, one can then think of the comprehension as an augmented extension – the class of all entities denotable by a term, whether existent or not. Since membership in a class – extension in the strict sense – is restricted to what

<sup>54</sup> The relationship of Lewis and Russell will be studied in some greater detail below, in chapter 3.2.1.

exists, we cannot populate a class with imaginary entities. For this reason, instead of referring to comprehension as a class, Lewis restricts comprehension into a classification (Lewis 1946, p. 49).<sup>55</sup>

The signification of a term is Lewis' take on essential predication. As Rosenthal (1976, p. 26) notes, the "objective properties essential to the applicability of a term are those which we have chosen to insert in our criterion. They are 'essential' because and in the sense that we have decided to use them, henceforth, as part of our criterion."<sup>56</sup> A term signifies such a property that anything which should have this property would be correctly nameable by the term, and whatever should lack this property, or anything included in it, would not be so nameable (Lewis 1946, p. 41). Signification is, then, very close to intension conceived of in the classical sense.

However, in common parlance the question of whether the intension concerns properties or other terms is ambiguous. Therefore Lewis wishes to introduce a mode of its own to cover properties, thus restricting intension to the relationship of the term in question to other terms. (Ibid., p. 43.) Since it would leave things ambiguous to determine whether, e.g., the term 'man' connotes 'animal', or animality, Lewis introduces signification to cover the latter case (ibid.). Signification concerns all the properties that are found in anything a term denotes. Intension concerns all the extensional terms that apply to anything a term denotes.

The intension is what in effect determines the meaning of a term.<sup>57</sup> The "intension of a term represents our intention in the use of it; the meaning it expresses in that simplest and most frequent sense which is the original meaning of 'meaning'; that sense in which what we mean by 'A' is what we have in mind in using 'A', and what is oftentimes spoken of as the concept of

<sup>55</sup> Carnap (1956a, p. 64), while siding with Lewis' use of extension and intension, criticized the notion of comprehension, arguing that it leads to an overtly complicated language form. It should be noted that comprehension can arguably be also construed more formally by employing possible world semantics, whose origins lay in Carnap's work. In this way, the comprehension of a term may be construed as the class of all the entities denoted by it in all possible worlds. Possible world semantics has been developed further by e.g. Kripke and Hintikka. For further reading, see e.g. Fitting (2007) and Garson (2008). The topic of possible world semantics is a highly complex one, and the parallel with C.I. Lewis' intensional semantics will not be pursued further in the present treatise.

<sup>56</sup> This is reminiscent of Putnam's position that the key to understanding definitions such as "all bachelors are unmarried" is that there is an exceptionless law associated with a given term. This law has two important characteristics: "(1) that no other exceptionless 'if and only if' statement is associated with the noun by speakers; and (2) that the exceptionless 'if and only if' statement in question is a *criterion*, i.e., speakers can and do tell whether or not something is a bachelor by seeing whether or not it is an unmarried man." (Putnam 1983, p. 89.)

<sup>57</sup> Lewis' construal of the intension is also similar to Frege's notion of *Sinn*, or sense, Peirce's notion of the immediate interpretant, Alexius Meinong's idea of the auxiliary object and David Kaplan's notion of the embodied name. A comparison of the latter notions is presented in Hilpinen (2009). The intension construed in Lewisian sense bears also some resemblance to the idea of "mental files" employed by e.g. François Recanati (1993) and John Perry (2001). The mental file is an aggregate of criteria on the grounds of which the applicability of a concept is determined. See also Chalmers' contemporary position on intensionality in Chalmers (2002).

A" (ibid., p. 43). The meaning of a term is what we have in mind when using that term.<sup>58</sup>

Intension determines the operational scope of a given term. It is a "criterion in mind by which it is determined whether the term in question applies or fails to apply in any particular instance" (Lewis 1946, p. 43). Formally construed, the intension "is to be identified with the conjunction of all other terms each of which must be applicable to anything to which the given term would be correctly applicable." (ibid., p. 39.)

Formally, intension concerns the relationships between terms. The formal, or linguistic, intension of a particular term can be expressed as the conjunction of all the other extensional terms that are applicable to whatever it denotes. Thus, the intension of 'cat' could be constructed as a conjunction of such terms as 'animal', 'feline', 'mammal', 'eukaryote' and so forth. We cannot, however, exhaustively enumerate the intension of any given term: "One could not recite all the other terms connoted by a given term 'A'" (ibid., p. 44). The number of such terms would be infinite, even if most of them would be redundant (ibid.).<sup>59</sup>

All the other modes of meaning of a term are subject to the intension of it. Before we understand what a term connotes, we cannot determine whether it applies to this or that object experienced. Without understanding a term's intension, we cannot determine its extension, comprehension or signification. (Ibid., pp. 46–47.)

The other modes of meaning are dependent on intension as follows. Signification, as should be obvious, is directly dependent on intension, being in effect only a shifted mode of it: if a term connotes 'animal', it signifies animality; if a term connotes 'red object', it signifies redness and so forth. Signification thus simply expresses the properties denoted by the intensional criteria. (Ibid., p. 43.)

For any term, its intension determines also its comprehension (ibid., p. 46). The intension determines how we may identify a given object denoted by a term, regardless of whether the object actually exists or not. The intension, when formalized, explicates which classes all things thus comprehended should belong to – that is to say, what we expect to find when we interrogate experience using this and that particular concept. It lays down the criteria on grounds of which we may draw the classification that is the comprehension of a term.

In this sense, intension delimits extension as well. It does not, of course, define it. The intension of a term determines the criteria on the grounds of which we judge whether a given object falls under its extension or not. The extension is, of course, also dependent on what actually exists. Intension simply dictates what we make of what exists. (Ibid., pp. 46–47.)

The intension is the fundamental element in meaning. Understanding the meaning of a term requires understanding its intension. Intensional analysis is,

<sup>58</sup> Lewis' position is here eerily prescient of Wittgenstein's famous dictum from *Philosophical Investigations* §43 that "meaning of a word is its use in the language" (Wittgenstein 2001, p. 18).

<sup>59</sup> It may be argued that the number of terms employed in an intension of a natural language term cannot, of course, be literally *infinite*: there are only a finite number of terms employed in any language. But due to the recursive nature of intensions, an intension would consist of so many terms as to be practically innumerable.

therefore, at the core of semantic analysis. The structure of the intension of a concept can be rendered explicit in at least two different ways. Lewis calls these two ways of explication *linguistic meaning* and *sense meaning*, respectively. I shall now turn to their details.

### 3.1.2 Linguistic Meaning and Sense Meaning

The intension of a term is what we have in mind in using it. The intension of a term 'A' is what is commonly referred to as the concept of A. It is a "criterion in mind by which it is determined whether the term in question applies or fails to apply in any particular instance" (Lewis 1946, p. 43) and "by reference to which one is able to apply or refuse to apply the expression in question in the case of presented, or imagined, things or situations" (*ibid.*, p. 133).

Analytically, the intension can be explicated in two different ways:

- 1) Formally considered, intension concerns the relationships between terms. This is the linguistic meaning of a term.
- 2) Operatively considered the intension is a schema; an aggregate of anticipatory rules that enable us to interpret experience. This is the sense meaning of a term.

Linguistic meaning concerns the relationship of a term to other terms. It is the explication of meaning we turn to when asked "what does 'A' mean?" For example, when asked "what does 'cat' mean?" we answer by explicating the linguistic meaning of 'cat': "a cat is a feline animal," or more analytically, "the intension of the term 'cat' contains the terms 'feline' and 'animal'."

Sense meaning concerns the operations relevant to corroborate the extension of a term. If we had no operative understanding of a word – if our entire understanding would be based on the relationships of words to one another – we could not do anything with language. We would face the classical dictionary regress: each word would be defined with yet other words and so on *ad infinitum*.

Linguistic meaning and sense meaning are two different ways of describing the intension of a term. These two aspects of intensional meaning "are supplementary, not alternative" (Lewis 1946, p. 133). Linguistic meaning and sense meaning offer differently focused but not exclusive perspectives to intensional meaning.

Linguistic meaning is the dictionary meaning of a term. It can be thought of being constituted by "the pattern of definitive and analytic relationships of the word or expression in question to other words and other expressions" (*ibid.*, p. 131). For example, the linguistic meaning of the term 'cat' consists of all such terms that must apply to everything that is denoted by 'cat'. Formally, the intension of 'cat' is construed as the conjunction of such terms as 'feline', 'animal', 'eukaryote', 'mammal' and so forth.

Lewis (*ibid.*, p. 140) maintains, however, that meaning "cannot be literally put into words, or exhibited by exhibiting words and the relations of words." We cannot learn a previously unknown language simply by studying a



dictionary. We cannot learn it by only coming to understand the relationships between the words therein.

For Lewis, meaning and action are intrinsically connected. He asserts: "Whoever speaks of *X* but does not know it could be determined whether a presented thing is *X* or not means nothing by his term: whoever asserts *P* but could not specify how the truth or falsity of *P* should be determined makes no genuinely meaningful statement" (Lewis 1939, p. 90). Knowing how words are related to one another does not suffice to understand the meaning of them. An understanding of how words are used in practice is required to understand the meaning of them.

Murphey (2005, p. 265) states the case as follows:

Language can, if we like, be completely abstracted from questions of sense-meaning and treated as a formal calculus, whose relational patterns we can study. Logic has often been so treated and, for certain purposes, this is a legitimate procedure. But when logic is employed in the guidance of action, reference to sense must be restored.

Linguistic meaning, as Rosenthal (1976, p. 32) points out, allows "for more precision, but it is not self-sufficient. It can only symbolize sense meaning, not capture it." We must also have some operational understanding of the language we use. We must have some sense of the application of the language. This operational dimension in language is what is expressed in sense meaning.

According to Lewis, a "sense meaning, when precise and explicit, is a schema; a rule or prescribed routine and an imagined result of it which will determine applicability of the expression in question" (Lewis 1946, p. 134). Sense meaning can be construed as an anticipatory schema, on the grounds of which we determine whether a given object falls under the denotation of a particular term.<sup>60</sup>

Sense meaning is intrinsically connected to imagination. "Only through the capacity called imagination could one have in mind, in advance, a workable criterion for applying or refusing to apply an expression under all circumstances of presentation" (Lewis 1946, p. 134).<sup>61</sup> As Zack (2006, p. 35) points out, sense meaning "is a matter of imagery and imagination, even for general terms."<sup>62</sup>

<sup>60</sup> Murphey (2006, p. 71) notes that "Lewis thought of his theory of sense meaning as a development of Peirce's famous pragmatic maxim of 1878." Peirce's maxim is laid out as follows: "Consider what effects, which might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object." (Peirce 1992, p. 132.) Murphey judges that Lewis had, indeed, correctly interpreted Peirce's position. Lewis' position draws, of course, also heavily from Kant. Kant already argued in favor of procedural rules that prescribe the way to relate a pure concept to an object in general; see e.g. Kant (1998, p. A140). This approach is also present in Dewey's writing. Dewey writes, for example, that a concept "is synonymous with the corresponding set of operations" (Dewey 1930, p. 107; emphasis omitted).

<sup>61</sup> As Lewis (1943, p. 249) pointed out elsewhere, analytic statements are independent of any particular state of affairs "because their applicability or inapplicability in general, or their truth or falsity in general, is certifiable from experiments in imagination."

<sup>62</sup> This does not mean that sense meaning would be limited to visual imagery. On the contrary, the operations that constitute the sense meaning span the entire range of

The reason why Lewis emphasizes the significance of imagination is to point out that meaning transcends the existent. Even terms that denote nothing have meaning; 'centaur' and 'unicorn' do not mean the same, even if they denote the same, that is to say, nothing. This is because we can imagine what centaurs and unicorns would be like, were they to exist. We can establish, by using our imagination, that they would be different creatures from one another. We can identify what would be such criteria that we would recourse to in order to determine whether a creature was a centaur or a unicorn.<sup>63</sup>

Sense meaning is a prescribed routine and an imagined result of it which determine the applicability of a term. It is important to note that the anticipated result is essential to sense meaning. Sense meaning involves not only the rule, but also the anticipation of some concrete result that can be facilitated by whatever the term is applicable to. As Zack (2006, p. 36) notes, "the imagined operation is not sufficient to count as sense meaning without the imagined result, which is what determines the applicability or non-applicability of the term having the sense meaning." It is the result produced by a given operation that determines whether a term applies to a particular experience.<sup>64</sup>

The criteria of the applicability of a term are phrased in hypothetical terms: "If this and that condition was satisfied, then finding things being in a certain predicted way will verify the applicability of the term." To explicate this, Lewis introduces the division to terminating and non-terminating judgments:

- 1) *Terminating judgments* concern only qualities of immediately given experience.
- 2) *Non-terminating judgments* concern hypotheses based on experience and justified on grounds of terminating judgments.

A terminating judgment expresses the outcome of some action in terms of immediate experience. A non-terminating judgment expresses an empirical hypothesis, such as the existence of an actual object, which can be justified by terminating judgments. The former concerns how things appear, or seem. The latter concerns how things, hypothetically, are. (Lewis 1946, p. 181.)

Terminating judgments concern only immediate experience. They are grounded in affirmations of sensation. For example, if I see a white rectangle in front of me, I can first make such immediate affirmations, or expressive statements, as "I see white now", "there appears a white rectangle," "I am

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sensory and introspective experience imaginable. As Zack (*ibid.*, p. 67) notes, "the image need not be visual, but could be kinesthetic or otherwise felt, imagined as a sound, smelled, or whatever else is allowed by our senses."

<sup>63</sup> Here, again, traces of the Kant's influence are apparent. Kant (1998, p. A141) writes: "The concept of a dog signifies a rule in accordance with which my imagination can specify the shape of a four-footed animal in general, without being restricted to any single particular shape that experience offers me or any possible image that I can exhibit *in concreto*."

<sup>64</sup> Lewis notes that many "protagonists of operational significance forget to mention the imagined result, and would - according to what they *say* - identify the concept or meaning exclusively with the routine. Presumably this is merely an oversight: no procedure of laying meter sticks on things would determine length without some anticipatory imagery of a perceivable result which would, for example, corroborate statement that the thing is three meters long." (Lewis 1946, p. 134.)

experiencing the sensation of whiteness" and so forth. I can in this manner express some of the immediate qualities of the experience presently given to me.<sup>65</sup>

On grounds of such experience, following judgments may be formed: "if I were to move my head thus, the rectangle would appear a parallelogram", "if I were to touch what appears to be that white rectangle with my hand, it would feel smooth," "if I were to grab it in my hand and crumple it, it would not offer great resistance." These are, in other words, judgments that are verifiable. This is because they are set in terms of immediate qualities of experience; nothing beyond what is immediately accessible to the senses is postulated. As soon as the stipulated operations are carried out, if the predicted result ensues, the judgment is verified. The judgment therefore *terminates* in experience.

A non-terminating judgment, in turn, is a hypothesis that is justified by terminating judgments. A likely non-terminating judgment justifiable by the above terminating judgments would be "this is a piece of paper." The justification for such a judgment would run along the lines of, "since what appears to be a rectangle also appears to be smooth, white and crumpley, and furthermore I seem to be able to produce writing on it with what appears to be a pencil, I can infer that what thus appears is a piece of paper." A non-terminating judgment is never completely verifiable, but only confirmable. As Lewis (1968b, p. 656) once remarked, the verification theory of meaning should, in fact, be called the *corroboration theory*. We could, for example, be brains in a vat, or dreaming about the piece of paper.<sup>66</sup> Nonetheless, the fact that something – whether it be an actual paper, a stream of bits or a dream image – appears presently in this particular fashion is completely indisputable.<sup>67</sup>

<sup>65</sup> This position gave rise to the since highly debated notion of *qualia*, which Lewis coined to explicate immediate sensation. Prominent present-day proponents of qualia include, among others, Thomas Nagel (1974) and Frank Jackson (1982). It should also be noted that Lewis treads here on grounds very strongly reminiscent of the logical positivists. In particular, his conception of *expressive statements* (see e.g. Lewis 1946, p. 184) that express immediate sensation falls very close to the positivists' notion of observation sentences, or protocol statements (see e.g. Neurath (1959)). Lewis (1941, p. 98) notes, however, that observation sentences can be interpreted in two ways: as formulation of immediately presented sensation, or as an assertion of objective fact. According to Lewis (*ibid.*, p. 99), this distinction is obscured in the positivists' account. Lewis holds that while the former kinds of statements, such as "this looks red" are infallible, statements of fact such as "this is red" are always hypothetical. Lewis' notion of expressive statements has been criticized by many philosophers, most notably Roderick Firth (1968) and Susan Haack (1993). It should be emphasized, however, that Lewis does not argue that statements could be reductively described in terms of judgments of immediate sensation. Rather, Lewis presents his notion of terminating judgments as a way to connect meaning with the actual application of terms in practice. In fact, many of the problems involved with the notion of the immediate element in experience, or the given, dissolve once Lewis' epistemology is treated in more pragmatic terms. This topic is addressed in detail in chapter 3.2.2 below.

<sup>66</sup> "Brains in a vat" is Putnam's famous science fiction reformulation of the Cartesian dream argument. Putnam argues that there is no way we could know whether what we experience is real, or whether an evil scientist has removed our brains and placed them in vats where they are then stimulated to mimic experience. See Putnam (1981, ch. 1).

<sup>67</sup> As Lewis (1930, p. 16) notes, "the given is not, without further ado, the real, but contains all the content of dream, illusion and deceitful appearance." The reality of the given is determined on the grounds of how we interpret it. But whether we judge an experience

The sense meaning of a term consists in an array of confirmatory operations experience must satisfy in order for the term to be applicable. These confirmatory operations can be formulated as counterfactual conditionals of the form: "S being given, if I were to do A, E would follow." Thus, a particular immediate experience being given, I can posit that if I were to carry out some specific action, a predictable effect would ensue. The sense meaning of a term can be construed as an aggregate of such confirmatory operations. As long as experience satisfies these operations, we shall consider the term applicable.

Sense meaning is an aggregate of confirmatory operations with a projected result. It is a kind of a choreography that we expect to be able to perform with whatever a term denotes. The sense meaning of a term can be analyzed as a conjunction of counterfactual conditionals which spell out the conditions which must be satisfied in order for a term to be applicable. The sense meaning of a term is analyzable into the conjunction of such counterfactual conditionals whose satisfaction would corroborate the applicability of a term, and whose dissatisfaction would increase the likelihood of doubt as to the applicability of the term.

Finally, we may also have a variance in our grasp of the operative and linguistic aspects of meaning. I will elucidate this variance with the following example. We may know ostensibly how to use a word (let us say, to denote a fir tree), without having any linguistic capacity to describe the meaning of the word 'fir' to an interlocutor. If one were to ask a five-year old what a fir tree is, she might not be able to give any linguistic definition whatsoever. Nonetheless, she would no doubt be able to single out firs quite consistently from, say, palm trees and birches. In other words, she would have some such capacity on the grounds of which she can determine whether a given tree is a fir or not. Conversely, one may have learned from a book that firs are trees of the family *pinaceae* that produce cones and needle-like leaves without having a clue as to what is a tree, a cone or a needle-like leaf. In this case we would grasp solely the linguistic meaning of the term 'fir': the conjunction of terms that are applicable to whatever is denoted by the term 'fir'.

In the former case, we are implicitly in the possession of the sense meaning of a term: we possess the operative criteria necessary to tell firs apart from other trees, even if we cannot yet explicate them. In other words, we possess the concept of fir. In the latter case we are only familiar with the term's linguistic meaning. In other words, we can specify the intension of the term in linguistic terms, but we do not actually possess the concept named by the term, because we cannot attach some operational significance to the terms.

Rosenthal (2004, p. 230), introduces a further distinction to explicate the properties of sense meaning. She bases this division in particular on Lewis' delineation of the *explicit* sense meaning as a schema (Lewis 1946, p. 134).<sup>68</sup> The distinction she introduces is that of *implicit* and *explicit* sense meaning:

An implicit sense meaning is a disposition or habit by which humans interact with the environment. In contrast, an explicit sense meaning is a schema or criterion in the

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as real or hallucinatory, there is always an element in experience that supersedes our interpretation. This topic is addressed in greater detail in chapter 3.2.2 below.

<sup>68</sup> Cited above, on p. 70.

mind by which one grasps the presence of something to which a particular type of response is required in order to obtain the desired result. (Rosenthal 2004, p. 230.)

An implicit sense meaning is a disposition or habit that allows a person to differentiate and classify experience and denote such classifications by terms. When a person can consistently name a thing, she is in possession of the concept of that thing; the implicit sense meaning of the term used to name the thing. When the schema that is employed in recognizing the thing thus named is rendered explicit, we are, in turn, dealing with the explicit sense meaning: the criterion in mind on the grounds of which we can tell whether a thing satisfies this or that postulated action, as described above.

There are, consequently, three ways to approach the intension. If one knows how to use a term, one possesses the concept that the term names. One possesses, in other words, implicitly the sense meaning of the term, or the disposition or habit required to use the term correctly. Once the operative criteria involved with the concept are rendered explicit, we can study the operational nature of the concept in terms of its explicit sense meaning. Finally, a term can also be studied in terms of its relationship with other terms, that is to say in terms of its linguistic meaning.

From this we can draw the following distinctions:

- 1) The intension, when implicit and in use, is disposition or habit on the grounds of which we interpret experience. This is the *implicit sense meaning*, or *the concept*.
- 2) The intension, when explicit and analyzed in operative terms, is a criterion in mind, or a schema that consists of anticipatory criteria explicable as counterfactual conditionals. This is the *explicit sense meaning*.
- 3) The intension, when explicit and analyzed in terms of expressible language, is a conjunction of applicable terms. This is the *linguistic meaning*.<sup>69</sup>

Intensional meaning, be it sense meaning, or linguistic meaning, concerns the relationship of anticipatory schemata to one another. These relations can be expressed either as relations of terms, or as relations of operations. Language is, thus, seen as a web of interlinked schemata which enable us to pursue and coordinate our goals and interests.

While sense meaning gives us a more detailed account of meaning, its level of detail is superfluous for most purposes of intensional analysis. What it does offer is a tight link between language and our practices. To that end it offers an exit from the dictionary regress we would face were it the case that linguistic meaning were the sole means of intensional analysis available to us.

For the purposes of establishing the analyticity of statements of natural language, linguistic meaning is usually sufficient. By analyzing the component terms of a statement intensionally, we may explicate, abstractly, relationships

<sup>69</sup> Charles Sanders Peirce employed a similar division of meaning. He held that meaning can be construed on three levels: the use of the term (the implicit sense meaning as a disposition or habit), its pragmatic meaning (i.e. explicit sense meaning) and its analytic (i.e. linguistic) meaning. See Peirce (1992).

that obtain within the language under analysis. If we can show that, for example, the predicate attributed to a subject in a statement is intensionally contained in the subject term, we may establish the analyticity of the statement – the fact that its truth may be established solely by the means of analysis. I shall now turn to the topic of how exactly the analyticity of a statement is established by intensional analysis.

### 3.1.3 The Intensional Analysis of Statements

The meaning of a term can be studied in four modes: extension, comprehension, signification and intension. Comprehension and signification are both defined on the grounds of intension, and extension on the grounds of the intension and what exists. The intension is, therefore, the central notion in meaning.

The truth of a statement depends on the intensions of the terms used, but is not necessarily determined by them. For analytic statements, their truth is determinable by analyzing the intensions of the component terms in the statement and their syntactic relations. For synthetic statements, the truth value of the statement requires also empirical corroboration. (Lewis 1946, p. 83.)

Let us, for example, scrutinize the statement “the cat is on the mat.” In order to ascertain whether the statement is true, we must first understand what ‘cat’ and ‘mat’ mean. If we do not understand what it means for something to be a cat, or a mat, it would be impossible for us to single out cats and mats out of all that we experience. If we could not tell whether a given object is a cat or a mat, we could not tell when the statement was true and when not. Whether or not we can enumerate the intensions of ‘cat’ and ‘mat’ in terms of explicit sense meaning or linguistic meaning, we need to be in the possession of at least some implicit sense meaning of them. We need to possess some such operational criteria on the grounds of which we can tell cats apart from non-cats, and mats apart from non-mats.

Once we know what to expect of a cat and a mat, we then turn to experience. If and only if it is actually the case that we experience an object that satisfies the criteria of ‘cat’ and an object that satisfies the criteria of ‘mat’, and furthermore that the two objects are positioned in such a fashion with respect to one another that coincides with what the relation ‘to be on top of’ signifies, the statement is corroborated.

To establish the truth value of a statement, we need to first ascertain the intensional criteria involved. If it turns out that the truth of the statement requires some further information, we must turn to empirical evidence. But if we can determine the truth of a statement already from understanding the intensions of the terms involved, this is not the case. With analytic statements, we can establish the truth of a statement solely by analyzing what its component terms mean. The truth of analytic statements becomes explicit once the intensions of the terms involved are analyzed, and their syntactic relationships are understood. This is because the truth of an analytic statement depends solely on the intensional relationships of its component terms.

Let us now consider the statement “all cats are animals.” By intensional analysis, we may determine that the linguistic meaning of ‘cat’ contains such terms as ‘animal’, ‘feline’, ‘mammal’ and ‘eukaryote’, among countless others.

That is to say, anything that is nameable by 'cat' must be also an animal, a feline, a mammal and a eukaryote. Since the intension of 'cat' contains the predicate 'animal' attributed to it, we can establish the truth of the statement without further corroboration. When the intension of 'cat' is rendered explicit, the statement reads, "all cats, which are necessarily animals on grounds of their intension, are animals," which is obviously patently tautologous, and therefore always true.

The truth of an analytic statement is independent of what is actually the case: it holds under all imaginable circumstances. There is nothing that must be the case in order for a particular analytic statement to be true: "all cats are animals" is true, regardless of whether there are, or ever were, such things as cats or animals:

That, for example, nothing is nameable by 'cat' unless it is also nameable by 'animal' does not require the existence of any cat or even of any animal; nor does it require the non-existence of anything whatever. It merely dictates how things, whatever they may be, must in consistency be named. (Lewis 1946, p. 94.)

There are two kinds of analytic statements: those that assert the intensional relationships between terms, and those that make no such assertion. These kinds of statements are *explicitly* and *implicitly* analytic statements:

- 1) An *explicitly analytic* statement asserts that something holds necessarily.
- 2) An *implicitly analytic* statement asserts that something holds actually, and it is the case that it holds necessarily.

For example such a statement as "all cats are necessarily animals" is explicitly analytic. Most analytic statements, however, make no such assertions. If an analytic statement does not express its own necessity, it is an implicitly analytic statement. The difficulty with implicitly analytic statements is that they differ *prima facie* in no way from synthetic statements. Therefore their analyticity can only be determined by intensional analysis.

For example, the statement "all cats are animals" is implicitly analytical. The syntactic form of the statement "all cats are animals" is the same as that of the statement "all swans are white": they are both predicate attributions. In the first case, however, the predicate attributed is intensionally contained in the subject. In the second case, it is not.<sup>70</sup>

Thus Lewis:

An *explicitly analytic* statement is an analytic statement (hence *true*) which asserts the logical necessity of something. [...] An *implicitly analytic* statement is one which asserts something which *is* logically necessary. (Lewis 1946, p. 89.)

He also states as follows:

<sup>70</sup> This distinction also coincides roughly with the classical *de re* / *de dicto* -distinction. In the case of the intensional containment, the predication of "all x are y" is *de dicto*. In the case of the empirical generalization, the predication is *de re*. In other words, for the first case, "all x" stands for everything that would under any circumstances be named an x. In the second case, "all x" stands for every x that exists. For more information on the *de re* / *de dicto* -distinction, see (McKay & Nelson 2005).

an explicitly analytic statement says that something is true of all thinkable things (of a mentioned kind), under all conceivable circumstances, whereas the corresponding implicitly analytic statement says only that this is true of all actual things under actual circumstances" (Lewis 1946, p. 91).

For each explicitly analytic statement there is a corresponding implicitly analytic statement that expresses the necessary condition only as a factual condition:

If 'p' is in fact an implicitly analytic statement, then the corresponding explicitly analytic statement, equivalent to "p' is necessarily true," is demonstrable by demonstrating the analytic character of 'p'; by showing it to follow from facts about meanings which are involved. (Lewis 1946, pp. 92-93).

Both the implicitly analytic statement "all cats are animals" and the synthetic statement "all swans are white" are syntactically of the form "all x are y." Therefore, we need to ascertain what 'x' and 'y' mean, and what is their intensional relationship before we can determine whether the statement under analysis is, in fact, analytic. In the first case, we can by intensional analysis establish that nothing that is not an animal would ever qualify as a cat. Therefore, we can contend that 'animal' is a term that belongs in the conjunction that defines the intensional linguistic meaning of 'cat'. We can, however, easily imagine, say, black swans. Therefore, the term 'white creature' is excluded from the intension of 'swan', and the latter statement is not analytic.

Explicitly analytic statements wear their analyticity on their sleeve: they state that what is expressed in them holds necessarily. Implicitly analytic statements also state what holds necessarily, but they do not state their necessity explicitly. Therefore, demonstrating the analyticity of implicitly analytic statements requires intensional analysis.

This also explains why not all analytic truths are self-evidently clear at first; why, for example the proof of the Poincaré conjecture took a century to come up with. We can only ascertain the analyticity of a statement once we understand what the terms used in it mean and how they are related to one another. Only once we understand how we use the terms in actuality can we ascertain whether or not there are some such relationships evident in the statement that render it true come what may. "Determination of analytic truth is not automatic and inevitable but subject to difficulty and to error. It calls for corroboration and methods of determination and of test." (Lewis 1946, p. 95.)

To sum up, the analyticity of a statement may be determined by analyzing its syntactic structure and the intensions of its component terms. If it is the case that the truth of the statement can be determined solely by such analysis, the statement is analytic. If it is the case that the truth of the statement requires further corroboration, the statement is synthetic.

An explicitly analytic statement expresses its necessity. An implicitly analytic statement expresses a factual claim which can be established by intensional analysis to hold necessarily. The intensional analysis of statements that reveals whether a given statement is analytic or synthetic is not infallible. This is why there are many such complex statements whose analyticity is not seen immediately. Only once we understand clearly a statement's syntactic



structure and the intensions of the component terms used in it can we determine whether it is analytic or synthetic.

### 3.1.4 The Analyticity of Logical Truth

It can be argued, as is done by e.g. Stenius that logical propositions are not analytic. Logical propositions result from semantic analysis, and their truth is established, for example, by the truth-value table method. Lewis, however, held that all truths of logic are analytic formal statements (Lewis 1946, p. 122). Logical propositions are, in fact, in no fundamental way discernible from any other analytic statement (ibid., p. 38.). This arises from Lewis' commitment to intensional analysis.

Lewis holds that the principles of logic are analytic because "their truth is certifiable by reference to intensional meanings involved in the statement of them" (ibid., p. 38). In other words, the truths of logic arise from intensional analysis just as do the analytic truths expressed in statements of natural language. Therefore in Lewis' framework the artifact used to determine the analyticity of a statement is not logical truth, as was the case in Stenius' account above, but the product of the intensional analysis. Ultimately, the abstraction which enables us to see whether a statement is analytic or not is that of the sense meanings of the component terms used in a statement, be it a natural language statement, or a proposition of formal logic.

Logic, like analytic statements of natural language, prescribes nothing to what actually exists. It must apply in every possible world:

[The] analytic character is of the essence of logical truth, because it is essential that it be independent of any and every empirical fact; that it hold not only of what happens to be the case in actuality but of all thinkable things and under all conceivable circumstances. (Lewis 1946, p. 122.)

Lewis notes that logical statements have been frequently dealt with solely in terms of extension. This restricts them to the actual; while logic, in fact, applies to everything thinkable, and therefore also to what does not exist: "analytic truths are true of the all possible; and what is true of the all possible is *a fortiori* true of all actuality; but what is true of all actuality will not necessarily be true of all that is consistently thinkable" (Lewis 1946, p. 123).

Intensionally construed, also formal statements of logic are analytic:

the truth of them is certifiable from their intensional meaning, as constituted by the intensions of their constituents and their syntax. They can be so assured without regard to values of their variable constituents because they can be certified by reference to the meaning of *constants* occurring in them and their syntactic structure, which the variables, having none but syntactic and notational meaning, merely help to preserve. (Lewis 1946, p. 124.)

As is the case with other analytic statements, also logical propositions are true on the grounds of their syntactic structure and the intensions of their constituents. Furthermore, Lewis argues that the fact that logical propositions differ from other analytic statements is simply a matter of convention:

[There is] no way of distinguishing fundamentally between principles of logic and other analytic truths. Such distinction is conventional, in the sense that it turns upon relative importance for the critique of inference, and upon comparative generality. There are, thus, alternative ways in which what is taken as belonging to logic may be marked off. (Lewis 1946, p. 38.)

Logical propositions constitute the most fundamental of analytic truths. They reflect the most fundamental conceptual principles we have committed to. Which particular truths we choose to include in this foundation is a matter of convention. Lewis elaborates the point further as follows:

The only indicated principle of selection is the principle that logic should cover those meanings which occur frequently enough in discourse, and in ways which make them important for determining the consistency and validity of the discourse in which they occur; particularly meanings such that by reference to explications of them alone – or to them principally – such consistency and validity can still be determined if the *other* terms of the discourse should be replaced by variables, thus producing a paradigmatic skeleton or *form* of this discourse. (Lewis 1946, p. 126.)

We can demonstrate the analyticity of logic by analyzing logical truths in terms of their intensions, and particularly their sense meanings. Analyzing logical truths in terms of their linguistic meaning would simply explicate the rule that is established by them. For example, the law of the excluded middle, expressible as the proposition “p or not-p” can be analyzed intensionally to arise from the fact that the intension of ‘p’ contains ‘not-not-p’. Therefore, the truth of “p or not-p” arises from the intensional structure of ‘p’ and the syntactic conventions involved with the connectives OR and NOT. However, this analysis would be inherently circular, for the analysis of the intension of ‘p’ would rely on the law of the excluded middle itself. Therefore, the intensional structure of logical propositions must be explicated in terms of their sense meaning.

In what follows, I will offer an example of intensionally analyzing basic logical connectives based on Lewis’ conception of sense meanings as anticipatory schemata on grounds of which we interpret experience. In analyzing the sense meanings of logical propositions, we explicate the practices that we commit to in abiding by a given logic.

By observing our practices of language use, we can determine that the logical operator AND requires that the anticipatory schemata that constitute the sense meanings of the two terms connected by it must both be satisfied in order for the statement involving the operator to hold. For example, for the statement “there are a cat and a mat,” the statement is true only if both the schema that constitutes the sense meaning of ‘cat’ and the schema that constitutes the sense meaning of ‘mat’ are satisfied by experience. The operations that corroborate the two terms connected by the logical connective must be satisfied in order for the statement to be true.

Likewise, we may determine that for the logical operator OR, it cannot be the case that neither of the terms connected by it is applicable. In other words, at least the anticipatory schema of one of the terms must be corroborated. Finally, the logical operator NOT simply denotes the fact that the term involved does not apply: its anticipatory schema is not satisfied by experience. For

example, the statement “this is not a cat” would be true only in case experience failed to satisfy the anticipatory schema that constitutes the sense meaning of ‘cat’.

Now, let us assume that ‘p’ is a schematic variable. That is to say, any anticipatory schema whatsoever can be substituted in the place of ‘p’. For “p or not-p” we may determine, on the grounds of what has been said above, that in the case ‘p’ holds, it cannot be the case that ‘not-p’ holds. If the anticipatory schema that constitutes the sense meaning of whatever ‘p’ is substituted with is satisfied, it is not the case that ‘not-p’, that is to say, that the anticipatory schema of ‘p’ was left unsatisfied. And conversely, if ‘not-p’ holds, it cannot be the case that ‘p’ holds: if the anticipatory schema of ‘p’ is not satisfied, then it holds that ‘not-p’. From this it follows that ‘p’ and ‘not-p’ satisfy the requirements of the connective OR: at least one of the terms must be the case. Therefore ‘p or not-p’ holds analytically: that is to say, its truth may be determined solely by intensional analysis as was specified above.

Of course, in normal usage, we do not need to carry out such analyses to justify the logic we use. Once we have committed to a logical framework, its truths hold by *stipulation*. Axioms being given, the theorems follow, on grounds of the commitment we have made to the axioms and the principles of inference, insofar as the logic we have committed to is consistent. In carrying out intensional analysis in terms of linguistic meaning, we take whatever logic we use already for granted. Only in the case a logical framework is called to doubt may we need to resort to the level of detail hinted at above. But were that the case, we could establish the analyticity of the truths of logic by analyzing the sense meanings of the constants and connectives involved: by analyzing what are the most generic conceptual principles that we are committed to.

### 3.1.5 Analyticity and Apriority

Lewis’ conception of apriority arises from the strong relationship he seeks to establish between epistemology and semantics. Knowledge, for Lewis, is deeply intertwined with meaning; epistemology is interdependent with semantics. A priori knowledge in particular is thoroughly rooted in semantics.<sup>71</sup>

Lewis holds that analytic statements express a priori knowledge: “All analytic statements are, obviously, true *a priori*; whatever is determinable as true by reference exclusively to the meaning of expressions used, is independent of any empirical fact” (Lewis 1946, p. 35). We know the truth of an analytic statement once we understand its meaning. Therefore its truth is independent of experiential corroboration, and thus knowable a priori.

<sup>71</sup> Lewis also joins ranks with Schiller and James, and is later followed by e.g. Putnam, in holding that ethics and metaphysics are intrinsically intertwined; see e.g. Schiller (1903), James (1907) and Putnam (1990, 2004). In fact, all four domains – semantics, epistemology, metaphysics and ethics – are interdependent of one another in Lewis’ theory. (See e.g. Lewis 1929 p. 1 ff.) It must be noted that pragmatism in general does not maintain strong distinctions between these domains. Instead, pragmatism is characterized by an inherent circularity, where one domain can only be explained by introducing another, and so on *ad infinitum*, as is argued by e.g. Pihlström (Pihlström 1996, pp. 16–17). For the sake of the clarity of argument, digression into ethics and metaphysics will, however, be mostly omitted here. The discussion will focus on epistemology and semantics.

By analyzing a statement intensionally, we can determine, antecedently to further experience, whether the statement requires empirical corroboration or not. In the case the statement needs empirical corroboration, we can establish its truth only by turning to experience. In the case that the statement does not need further empirical corroboration we may establish its truth there and then, without turning to experience. Therefore, all analytic statements are knowable a priori: "what is knowable *a priori* is certifiable by reference to meanings alone." (ibid., p. ix).

By performing intensional analysis, we can establish, for example, that the statement "all cats are animals" holds a priori. By analyzing the intension of 'cat' we discover that owing to our predetermination of a certain way to use the term, it can be shown to contain intensionally the term 'animal'. The a priori knowability of the statement arises, therefore, from the intensional relationship of the terms 'cat' and 'animal'. Since animality is an intensional criterion for 'cat', the term 'animal' belongs in the intension of the term 'cat'. Therefore any statement attributing such a criterion to 'cat' can be known a priori. We know that all cats are animals simply because were something not an animal, it would not be classified as a cat. Understanding "all cats are animals" is equal to understanding the operational conditions that concern the uses of 'cat' and 'animal': there is no such case where 'cat' would apply but 'animal' would not.

By contrast, the truth of such a statement as "all cats in this room are furry" cannot be resolved solely by the means of analysis. Furriness is not an intensional criterion for the term 'cat': we can easily imagine cats that were not furry. Therefore, we must also observe whether or not the specified cats actually are furry before we can ascertain the truth of this statement. Statements whose truth cannot be settled by analysis are synthetic statements that demand further experiential justification and are thus knowable only a posteriori.

There is a further notion that must be addressed here. That is the problem evoked by Hilary Putnam's (1962) famous robot cat thought experiment. Suppose that some time ago, all the cats on Earth were replaced by Martian robot cats. These cats were by all appearance identical to the cats they were replaced with, and we could not tell by their appearance that anything had changed. However, now the apparently analytic statement "all cats are animals" would seem to be patently false. After all, all cats that we now knew of were in fact robots. This evokes a more general problem of naming that has immediate relevance to the relationship between apriority, analyticity and intensions.

To state the issue simply, any such discovery as presented in Putnam's thought experiment presents us with a *choice* as concerns our conceptual principles. We can always either follow the Putnamean intuition and assess that "all cats are animals" is in fact a false empirical generalization, and that "all cats are robots" is a true one – and one no more analytic than the other. This case can be likened to the position assumed towards the statement "all swans are white" after the Australian black swan was discovered. But there is always another choice.

We can always also stipulate that "all cats are animals" is an a priori knowable intensional classification that determines that the intension of 'cat' contains the term 'animal'. In this case we would simply rule that there were no

more cats on planet Earth, these having been replaced by beings which can be described in highly coinciding intensional terms, apart from their not being animals. In other words, the cats would have been replaced with highly cat-like creatures, but not cats.

The difference between an inductive, a posteriori knowable generalization and an analytic a priori knowable truth is simply that the former can at any time be falsified by empirical experience. More specifically: in the former case we are willing to entertain the notion that such falsification could eventually take place. In the latter case no such falsification is accepted: a priori knowable analytic statements are true, no matter what experience brings. Ultimately, any statement can be treated one way or the other. The ultimate trial of apriority is to study our own conventions and practices: which statements do we deem to hold, come what may, and which are we willing to change in the face of recalcitrant evidence.

To sum up, in intensional analysis we render explicit the intensional relationships between terms. If the intensional analysis shows that a statement being analyzed requires no further experiential corroboration, the statement is analytic. Therefore the truth or falsity of an analytic statement can be determined solely by analysis. Because intensional analysis is non-experiential, it suffices as a priori justification. Knowledge that is justified non-experientially is a priori knowledge. Therefore, analytic statements express truths that are knowable a priori. A priori knowledge is not, however, infallible and eternal. On the contrary, whenever we experience something at odds with an assumed a priori knowable conceptual principle, we are faced with a choice. We may either rule the experience out as faulty, or we may change the conceptual principle. This topic is addressed in further detail below, in chapter 3.2.5.

### 3.1.6 The Rejection of Synthetic A Priori Knowledge

Before moving on to the specifics of the object of a priori knowledge, there remains one more issue to address: the rejection of synthetic a priori knowledge. Lewis (1946, p. 37) explicitly rejects the Kantian idea of synthetic a priori knowledge:

There are no synthetic statements which can be known true *a priori*: what may appear to be such, must be regarded as representing some failure to elicit by analysis the criteria operative in the actual, or the ideally consistent, application of terms in question, or some failure to recognize implications which validly obtain. (Lewis 1946, p. 37.)

While Lewis draws a great deal from Kantian philosophy, he digresses here radically from the old sage of Königsberg. Lewis sides here with the logical positivists in holding that all a priori knowable statements are analytic and that all synthetic statements can only be known a posteriori.

According to Kant, synthetic a priori statements such as the statements of mathematics are synthetic because one “must go beyond these concepts, seeking assistance in the intuition that corresponds to [them]” (Kant 1998, p. B15). Lewis, however, maintains that all a priori knowledge arises from the intensional structure of the concepts used. Once we understand our concepts,

we precisely do not need to go outside them to know a statement a priori. A priori knowledge arises solely from the analysis of concepts.

Lewis argues as follows:

if 'whatever happens' connotes temporality of what is spoken of, and if being a temporal happening entails being caused, then "Whatever happens has a cause" is an analytic proposition. But if temporality is not here connoted, or if being a temporal event does not entail being caused, then no ground for holding this proposition to be *a priori* is revealed. (Lewis 1946, p. 161.)

If we treat the statement "whatever happens has a cause" as analytic in the sense that whatever we can imagine happening must have a cause, we can know it a priori. And if we treat it as synthetic in the sense that we have, by observations, come to judge that happenings have causes, it cannot be the object of a priori knowledge. The situation is analogous to the case of the robot cat in the previous chapter: we are always faced with a choice whether we judge a statement to be legislative with respect to further experience, or whether we judge it to be a generalization from past experience.

Lewis (1946, p. 163) notes: "Any character in the absence of which we should refuse to apply a term, is of the essence. It is included in the signification of the term; and any definition which does not entail such an essential character represents a faulty analysis of the meaning in question." As Rosenthal (1976, p. 27; also Rosenthal 2007, p. 51) notes, belief in synthetic apriority arises because "we are not aware of an implicitly accepted intrinsic relationship between meanings and thus assert as synthetic a relationship which is, in fact, analytic." She notes elsewhere that "through failure of analysis, the appearance of synthetic a priori judgments can arise" (Rosenthal 2007, p. 38). The appearance of synthetic apriority arises, therefore, from implicitly analytic statements.

What may *prima facie* appear as synthetic a priori knowledge is, in fact, knowledge vested in implicitly analytic statements: in necessary statements that do not express this necessity explicitly. Mathematical propositions, for example, do not explicitly state their own necessity, and yet they do hold under all imaginable circumstances: given adequate mathematical definitions, the theorems of mathematics are deducible. The truths of mathematics are analytic truths, but their analyticity is implicitly vested in the intensions of the mathematical terms themselves.<sup>72</sup>

While the analytic nature of mathematical propositions could perhaps be demonstrated by using sense meanings in a similar fashion as was tentatively done in the context of logic above, such an argument would necessarily be very

<sup>72</sup> As Murphey (2005, p. 45) notes, Lewis had committed to such a point of view already at the time of his 1910 dissertation: "mathematics is an abstract system whose statements are purely analytic. Given the primitive ideas, postulates, definitions and rules of the system, all the theorems follow without appeal to construction or intuition." It should, however, be noted that Lewis' idea of the analyticity of mathematics does not mean that mathematics arises from revealing some deep properties of reality as was held by, e.g., logicians such as Frege and Russell. Rather, for Lewis, analyticity targets the fundamental structure of our conceptual schemes. In this sense, it could be argued that Lewis' position falls closer to such positions as Brouwer's intuitionism. In intuitionism, mathematics is construed as the application of internally consistent methods to realize complex mental structures. For further reading, see e.g. Brouwer (1975).

complex, and relatively tangential to the present endeavor. In order to demonstrate the implicit analyticity of allegedly synthetic a priori truths, a less complicated example may suffice.

Let us observe the intensional structure of the following, allegedly synthetic a priori knowable statement: "a patch cannot be red and green all over."<sup>73</sup> To resolve whether the statement is analytic or synthetic, we must analyze intensionally the terms 'red' and 'green'. What must be established is whether we can determine the truth of the statement without further empirical corroboration. This can be established by demonstrating that there are intensional criteria vested in the term 'red' that bar the use of 'green'.

By observing what must be the case in order for something to be red, we will soon come to realize, that in order for the term 'red' to apply, all other color terms must be inapplicable. Owing to the conventions of how we use color terms, we cannot imagine a circumstance where two color terms would apply at the same time for the same patch.

In terms of sense meaning this means that if an anticipatory schema contains the criterion that allows us to single out red objects, it automatically excludes other color criteria. This arises without exception from our use of color terms; the exclusion of other colors is embedded in the rules that guide the use of color terms. As Rosenthal (1976, p. 16) notes, the "sense meaning of 'red all over' as the criterion in mind or the conceptual pattern, implicitly contains the exclusion of 'green,' for if green were present, we should refuse to apply the expression 'red all over.'"

On the grounds of our practices, the intension of a color term contains the negation of every other color term. We may then establish that the intension of 'red' consists of, among other terms, such terms as 'not-green', 'not-blue', 'not-yellow' and so forth. Therefore "a patch cannot be red and green all over" intensionally entails "a patch cannot be red, which is necessarily not-green on grounds of its intension, and green all over," which is obviously an analytic statement on the grounds of the rule of non-contradiction. Once we understand the meanings of 'red' and 'green', no recourse to Kantian intuitions is needed. Ultimately, we know that "a patch cannot be red and green all over" is true, because we will refuse to apply the concept of red when experiencing green.

All statements that are knowable a priori are either explicitly or implicitly analytic. In the case of implicitly analytic statements, their truth can be resolved by analyzing the intensions of their component terms. Such statements whose intensional analysis alone does not settle their truth-value are synthetic and knowable only a posteriori, once experience corroborates the applicability of the component terms used.

### 3.1.7 Summary

Lewis argues that a priori knowledge arises from the analysis of concepts. Therefore understanding meaning is central to a priori knowledge. According to Lewis, the intension is the most fundamental component in meaning. He holds that analytic truth, and consequently a priori knowledge, arises from

<sup>73</sup> This example expands on a demonstration given by Rosenthal (1976, pp. 16-17).

understanding the intensions of the component terms employed in a statement, and their syntactic relations.

According to Lewis, there are several aspects, or modes, to meaning. These are extension, comprehension, signification and intension. Extension is the class of entities that a term denotes. Comprehension is the classification of all imaginable entities that a term would denote were they to exist. Signification is the classification of those properties an object must have in order to be denotable by a term. And finally, intension is the criterion in mind on grounds of which we may determine whether a given term or expression applies or not.

The intension can be analyzed in two ways. Linguistic meaning concerns the intension as formally construed. More specifically, linguistic meaning concerns the conjunction of all terms that must apply to whatever the term being analyzed applies to. Sense meaning concerns the intension as operatively construed. Sense meaning concerns the aggregate of such operative criteria on the grounds of which we may determine whether a given term applies or not. Sense meaning, when laid explicit, is an anticipatory schema on the grounds of which we classify experience.

Establishing the truth value of statements requires the intensional analysis of their component terms. If the truth of a statement can be established solely by analysis, the statement expresses an analytic truth. If the statement requires, however, further empirical corroboration, it is a synthetic statement. Knowledge concerning the truth of analytic statements arises exclusively from the analysis of the terms being used and their syntactic relations.

Analytic statements can be either explicitly or implicitly analytic. Explicitly analytic statements wear their analyticity on their sleeve: they state that something is necessarily the case. Implicitly analytic statements are, however, *prima facie* indiscernible from synthetic statements. Their analyticity can only be established by intensional analysis.

When intensionally construed, also logic is analytic. The truth of logical propositions is dependent on what the logical constants and the connectives employed mean. The truth of logical propositions can be established by intensional analysis, just as is the case with other analytic statements. To this end, logical propositions differ in no fundamental way from other analytic statements. The incorporation of given analytic statements in a logical system is ultimately a matter of convention.

Analytic statements can be known a priori because the knowledge of their truth arises solely from the intensional analysis of their component terms. By coming to understand the intensional and syntactic relationships that obtain between the terms, we may establish that such statements which must hold under all imaginable circumstances are analytic: they are true, no matter what. Intensional analysis is a non-experiential activity on the grounds of which we may determine whether or not a given statement holds under all imaginable conditions. Because intensional analysis is non-experiential, it suffices as a priori justification, on the grounds of (AP).

Finally, there are no synthetic statements that can be known a priori. Such statements that appear to state synthetic a priori knowledge are, in fact, implicitly analytic statements where we have not yet been able to explicate the intensional relationships of the component terms sufficiently well. Once the



intensional relationships are established, if the statement requires no further corroboration, its truth can be known a priori.

A priori knowledge arises from intensional analysis. Consequently, a priori knowledge is expressed by analytic statements: statements that can be shown to be true solely by intensional analysis. The question of the object of a priori knowledge is, however, still open: what exactly is it that can be known a priori? I shall now turn to this question.

### 3.2 Concepts and the Conceptual Scheme

In chapter 3.1, it was argued that a priori knowledge concerns the relationships between terms, or the anticipatory schemata that constitute their sense meanings. It was also said that a priori knowledge concerns concepts.<sup>74</sup> This gives rise to two central questions in the context of a priori knowledge. First, what is the object of a priori knowledge? In other words, what are concepts? And second, what is the extent and nature of knowledge concerning concepts? In other words, what do we come to know when we come to possess knowledge about our concepts, and what is the nature of such knowledge. The first question is addressed in the present chapter. The second question is the topic of chapter 3.3.

A term is a linguistic unit that names a concept. The meaning of a term is, in other words, the concept that the term expresses. The concept of A can be expressed as the intension of the term 'A'. (Lewis 1946, p. 43.) More specifically, a concept can be construed as equivalent to the implicit sense meaning of a term: it is a disposition or habit on the grounds of which we may determine how a particular experience should be classified. (Ibid., p. 136 ff.) When rendered explicit, a concept is an anticipatory schema on the grounds of which we classify experience.

This idea of concepts as anticipatory schemata has long-reaching epistemological consequences. It produces an epistemological position that can be located between Kant and Quine. It is thoroughly Kantian in the sense that conceptual categories are inherently epistemological in nature – no Aristotelian metaphysical categories are accepted in Lewis' philosophy. According to Lewis, we cannot categorize what there is in an absolute sense, but we may show how our categorial attitude towards what there is is put together. (Lewis 1929, p. 14.) The Lewisian position distances itself from Kant, however, in holding that there is no single necessary categorial structure which we would be compelled to hold on to in conceiving of the world. We may ultimately conceive of the world in various mutually exclusive ways. (Ibid., pp. 299–300.)

Lewis' position, as shall be seen in greater detail below, is Quinean in the sense that also for him concepts form a network of relationships where one concept is defined in terms of others. (Ibid., p. 89.) Furthermore, as with Quine, some concepts are more vulnerable to recalcitrant experience than others. (Ibid., p. 306). Both commitments are prescient of Quine's conceptual holism.<sup>75</sup> As

<sup>74</sup> See in particular p. 63 and p. 74 above.

<sup>75</sup> Sinclair (2010) has argued that Quine's conceptual holism owes in fact a great deal more

Murphey (2006, p. 74) notes, the major difference between Lewis and Quine is their attitude towards a priori knowledge. Quine rejected it. Lewis redefined it.

To elucidate the nature of concepts, elements of Lewis' epistemology will need to be addressed. In this chapter, Lewis' epistemology in general, and the object of a priori knowledge in particular are studied in detail. First the fundamentals of Lewis' epistemology are laid out. Then the relationship between concepts and the given element in experience is scrutinized. Finally, features of concepts and conceptual schemes are studied in detail.

### 3.2.1 The Roots of Lewis' Epistemology

Before turning to the details of Lewis' epistemology, and the role of a priori knowledge therein, some considerations of the roots of Lewis' epistemology are in order. Lewis' epistemology is rooted one part in the logic of Russell, one part in Kant's first *Critique* and one part in the classical pragmatism of Peirce, James and Royce. At its core, Lewis' epistemology is thoroughly pragmatist.

Shortly after completing his dissertation on epistemology in 1910, Lewis turned his attention to logic.<sup>76</sup> While he was greatly impressed with Russell's and Whitehead's *Principia Mathematica* (1910), he soon became disillusioned with extensional logic. In his autobiography, Lewis noted: "From the time of first looking into *Principia Mathematica*, I had felt that the exclusively extensional logic and the relation of 'material implication', on which the whole development was based, was defective as a paradigm of logical deduction, and theoretically oblique" (Lewis 1968b, p. 14).

The critical concern that arose from Lewis' study of the *Principia* was that he felt the material implication defended by Russell and Whitehead was counterintuitive to natural inference. This was not the least because in extensional logic any proposition follows from a false premise. Lewis set out to develop a logic of intensions where the material implication would be replaced by a strict implication more akin to natural inference.<sup>77</sup> As was seen above, the intension later became the central concept in Lewis' semantics.<sup>78</sup>

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to Lewis than is customarily thought. Lewis was one of Quine's teachers at Harvard. His influence can, indeed, be explicitly seen in some of Quine's unpublished graduate papers, where he demonstrates a firm understanding of Lewis' epistemology, as Sinclair (*ibid.*, p. 8) points out.

<sup>76</sup> The biographical information is here based in particular on the comprehensive biography by Murphey (2005), the encyclopedic entries on Lewis by Rosenthal (2004), Dayton (2006) and Hunter (2007), as well as the brief autobiographical sketch by Lewis (1968b) himself.

<sup>77</sup> The strict implication is fundamentally an implication relation restricted by the modal operator "necessary." In other words, where extensional implication concerns actual entities, strict implication dictates the implication in all possible worlds. The notion was first introduced in Lewis (1914), and became the fundament of the logical system presented in Lewis (1918).

<sup>78</sup> Lewis has also been lauded as the father of modern modal logic. He published two highly influential works on the subject. (Lewis 1918 and Lewis & Langford 1932.) This work drew strongly from his conception of the intension, and was expressly juxtaposed against Russell's and Whitehead's notion of extensional logic. Modal logic has been further developed by e.g. Marcus (1946), Carnap (1956a), Church (1951) and Kripke (1963). It should be noted, though, that perhaps apart from the exception of Marcus, contemporary modal logic has grown distant from its Lewisian origin. For example, in Kripkean modal logic, intensional meaning is determined in terms of a function  $f_x$  that maps a formula  $X$

In developing the logic of strict implication, Lewis came to realize that there were, in fact, several possible ways to construct a consistent logical system. This led Lewis to defend the plurality of logics: “there are several logics, markedly different, each self-consistent in its own terms and such that whoever, using it, avoids false premises, will never reach a false conclusion” (Lewis 1929, p. 248).

The work in logic led Lewis back to epistemology. Epistemology became then the focal point of his philosophy. His epistemological starting point was Kantian.<sup>79</sup> He earnestly acknowledged his debt to Kant:

Kant compelled me. He had, so I felt, followed scepticism to its inevitable last stage, and laid his foundations where they could not be disturbed. I was then, and have continued to be, impatient of those who seem not to face the sceptical doubt seriously. Kant attracted me also by his intellectual integrity and by the massiveness and articulation of his structure. The evidence of Kant in my thinking ever since is unmistakable, however little I may achieve the excellences which aroused my youthful admiration. (Lewis 1930, pp. 3–4.)

Following Kant, Lewis acknowledged that there was nothing in experience that was not somehow affected by our mind: “Experience does not categorize itself. The criteria of interpretation are of the mind; they are imposed upon the given by our active attitude.” (Lewis 1929, p. 14.) Lewis maintained that we need some such concepts, categories, or other methods of rendering what is not in itself intelligible into forms that are consistent throughout our activities. As Lewis pointed out: “Until the criteria of our interpretation have been fixed, no experience could be the sign of anything or even answer any question” (ibid., p. 230).

During his undergraduate and graduate studies at Harvard, Lewis studied under the pragmatist philosophers William James and Josiah Royce, the latter acting as the supervisor of his dissertation. While Lewis set out to develop his epistemology on Kantian grounds, his pragmatistic temperament caused him soon to digress from the sage of Königsberg. He noted: “We still suffer from the delusion that fixed and eternal categories of human thought on the one side are confronted with equally fixed and given ‘things’ on the other” (ibid., p. 258).<sup>80</sup> Unlike Kant, Lewis did not accept the infallibility of the categories: what is

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to a possible world  $\Gamma$  (Fitting 2007). Thus, the population of  $\Gamma$  with definite objects is already presupposed – a presupposition that cannot hold for Lewis, owing to his Kantian and pragmatic commitments.

<sup>79</sup> Lewis’ position could be characterized as a pragmatic variant of transcendental idealism – or, as Rosenthal (2007, p. 36) puts it, “pragmatic kantianism.” This point is also raised by Murphey (2005, p. 60). Pihlström (2003, p. 17 ff.) argues that pragmatism in general should be considered as a form of transcendental philosophy.

<sup>80</sup> It is, of course, arguable whether this was Kant’s position either. Henry Allison (1983) has, for example, argued forcibly for an *aspectual* reading of Kant: “Allison has tried to show that transcendental idealism ought to be interpreted epistemologically or methodologically, rather than metaphysically, as a transcendental distinction between two ways of considering the objects of our experience – on the one hand, as they appear to us (as spatio-temporal and as subject to the categories), and on the other hand, as they are in themselves, independently of the ‘epistemic conditions’ of sensibility and understanding constraining our experiences.” (Pihlström 2003, pp. 153–154.) See also Allison (1996).

given in experience can be categorized in several equally functional ways. The necessary conditions of experience may vary.

Lewis' epistemology is most prominently rooted in American pragmatism. Lewis belongs to the pantheon of central pragmatist thinkers of the 20<sup>th</sup> century. In this pantheon, Lewis is preceded by Charles Peirce, William James, John Dewey and Josiah Royce. He has had a direct influence on, among others, such arguably pragmatic thinkers as W.V.O. Quine and Wilfrid Sellars, and has consequently influenced also Hilary Putnam and Richard Rorty. Murphey (2005, p. 407) has even nominated Lewis as the "last, great Pragmatist," claiming that he ended the golden era of classical pragmatism, consisting of Peirce, James, Dewey and finally Lewis.

The pragmatist's temperament is crystallized in Peirce's famous pragmatic maxim:

Consider what effects, which might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object. (Peirce 1992, p. 132.)

The pragmatic maxim dictates that any such speculation that has no conceivable practical consequences is meaningless. Whatever we conceive of can, therefore, be specified in terms of what practical effects it can have on us. In order to sidestep the skepticist's challenge without collapsing to idealism, the pragmatist embraces an anti-skeptical fallibilist position. The pragmatist emphasizes the relevance of the practical differences that arise from the notions we entertain to make sense of the world.

Pragmatism also mediates between naïve realism and extreme phenomenalism. While realism appeals to our common sense intuitions, it encounters problems with the ambiguous phenomena of perception, such as dreams and illusions: if our senses can let us down, how can we ever know which of our experiences are real and which are not? Phenomenalism, in turn, lays too much emphasis on the activity of the perceiving agent, leading eventually to a kind of relativism where everything appears to be entirely dependent on the subject herself: there is nothing left but experience.

The pragmatist accepts that there are a variety of ways to experience the world. But it is, nonetheless, the real world that is experienced, one way or the other. This is elaborately expressed in Giovanni Papini's hotel metaphor, here quoted from James (1907, p. 510):

[Pragmatism] lies in the midst of our theories, like a corridor in a hotel. Innumerable chambers open out of it. In one you may find a man writing an atheistic volume; in the next some one on his knees praying for faith and strength; in a third a chemist investigating a body's properties. In a fourth a system of idealistic metaphysics is being excogitated; in a fifth the impossibility of metaphysics is being shown. But they all own the corridor, and all must pass through it if they want a practicable way of getting into or out of their respective rooms.

The pragmatic hotel affords a multitude of perspectives to the world: but all the windows in all the rooms open up to show same world. It is only the point of view that varies. Pragmatism is not a doctrine that says that there is one substance or that there are many substances, not one that says that there are

abstract entities or that there are only individuals, not one that says that experience is primary nor that thought is primary. Pragmatism is a method, an attitude of orientation that says that all of the above and more are legitimate avenues of inquiry, insofar as they somehow support our wants and needs in the world. As James (1907, emphasis omitted) noted, "No particular results then, so far, but only an attitude of orientation, is what the pragmatic method means. The attitude of looking away from first things, principles, 'categories', supposed necessities; and of looking towards last things, fruits, consequences, facts."

Pragmatism can also be described as an attempt at a synthesis of Kant and Darwin, as is argued by Pihlström (2003, p. 17). From Kant, the pragmatists draw the conclusion that experience always involves the constructive activity of the experiencing agent. From Darwin, in turn, the pragmatists draw the notion that the preconditions of such construction are subject to evolution. Rather than being representable as fixed categories, as Kant argued, the preconditions of experience are, in fact, malleable. Such ways of classifying experience survive that facilitate our purposes. Dysfunctional classifications are eventually weeded out.

The pragmatist emphasizes the activity of the subject, the reality of the world, and the evolutive nature of the fundamentals of our knowledge. These notions are taken to play also by Lewis and knitted into an epistemological theory that presents in systematized form ideas introduced and developed in particular by Peirce and James. It could be argued that pragmatism was invented by Peirce, made popular by James, and systematized by Lewis.<sup>81</sup>

Lewis first published his ideas concerning a priori knowledge in the 1923 paper entitled "A Pragmatic Conception of the A Priori." In this paper, he outlined the basic principles of a priori knowledge that would later grow to be the cornerstone of his epistemology. Already in the 1923 paper, the idea of a priori knowable truths' being ultimately a matter of conceptual choice was presented.

Lewis then took these ideas and developed them into his first concise epistemological theory in MWO, which includes also much of the 1923 paper in an edited form. In this book, he took his central notions of the a priori and the given and presented a systematic epistemology, where knowledge and perception were concisely explained in terms of these notions. The cornerstone argument of MWO was that experience can be analyzed in terms of two central notions: the a priori, or concepts, and the given. Concepts are what precedes experience and guides our attention within it. The given is that part in

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<sup>81</sup> Murphey (2006, p. 76), for example, notes: "One way to view Lewis' work is to say that he took over the basic ideas of Pragmatism from Peirce and James and extended and reformulated them in a precise and systematic form." It can, of course, be contested whether there is one such thing as "pragmatism." All pragmatist thinkers have their own idiosyncrasies that set them apart from each other. Peirce even renamed his own position as *pragmaticism* owing to his dissatisfaction with the way the term 'pragmatism' had been appropriated by other thinkers. This problem is, however, pertinent to any school of thought; no group of philosophers has ever entertained precisely the same tenets. In this light, regarding Lewis' position as a systematization of general pragmatistic ideas is warranted.

experience that our own categorizing activity cannot affect. These notions are studied in detail below.

In the 1930's, after getting acquainted with logical positivism, Lewis invited Rudolf Carnap and Moritz Schlick for talks in Harvard. Lewis was very partial towards the developments in positivism, but could not accept the positivists' reliance on language, as is evident in the paper where he compares the main ideas of logical positivism and pragmatism (Lewis 1941). The positivistic influence is, however, present in his second main epistemological work, the 1946 *An Analysis of Knowledge and Valuation*.

In this book, Lewis took his notion of a priori knowledge and analyticity one step further and developed an intensional semantics that would drive his epistemic position and warrant his notion of a priori knowledge and its relationship with analyticity. The main features of this theory were presented above, in chapter 3.1. While analyticity was for Lewis as for many of his contemporaries a semantic notion, closely linked with language, with his analysis of intensional sense meanings he could also connect it back to practices and activities, thus building a bridge from positivism back to Peirce, James and even Dewey. By employing Lewis' later analytic devices we can also make more sense of the notions concerning his position on a priori knowledge introduced in the 1923 paper and refined in MWO. This is the position to which we shall turn next.

### 3.2.2 The Given

Lewis holds that there are three elements in empirical knowledge: "the given or immediate data of sense, the concept, and the act which interprets the one by means of the other" (Lewis 1926, p. 240). At the center of his epistemology are the two central notions of *the given* and *concepts*. The former accounts for the brute fact of experience: the fact that what we experience is not entirely dependent on us. The latter, in turn, concerns the perceiving agent's categorial attitudes towards experience.

While there is arguably a substantive element of constructive activity involved in experience, experience is not entirely subjective. Were experience solely dependent on anticipatory schemata appropriated by a person, the very reality itself would become completely dependent on that individual. This kind of relativism is out of the question for Lewis. To escape the relativist trap, Lewis introduces the given element in experience:

In experience, mind is confronted with the chaos of the given. In the interest of adaptation and control, it seeks to discover within or impose upon this chaos some kind of stable order, through which distinguishable items may become the signs of future possibilities. (Lewis 1929, p. 230.)

In experience, we face the world as it is. And we make sense of what we face in order to be able to act in the world. Each experience allows a substantial variety of mutually exclusive interpretations. But the applicability of such interpretations is likewise substantially limited. These limits are drawn by what is given to us.

Let us consider as an example the duck-rabbit image made famous by Joseph Jastrow (1901, p. 295). The image may be interpreted easily as either a duck or a rabbit. But we will be hard pressed to interpret the image as, say, a monkey wrench. What is given allows the interpretations of duck and rabbit, but bars quite a few other interpretations, such as that of the monkey wrench. Actual experience, *as experienced*, depends a great deal on both what is given and how we approach it: “[The mind does not] manufacture what is given to it, but meets the independent given with interpretive structures which it brings to the encounter” (Dayton 2006, p. 4).

The concept of the given separates Lewis’ epistemology from the more radically relativistic ones. While there is a great deal of convention-reflexive relativity present in Lewis’ theory of knowledge, he does not want to join ranks with such radical skeptics that hold that we can have *no* knowledge of the real. His epistemology is, on the contrary, set up exactly to thwart such philosophical extremism. The question Lewis asks is:

Is there, either antecedent to and supporting the perceptual belief in objective fact, or in the perceptual experience itself, an element or factor which is the basis of the perceptual judgment but is not, like this judgment of objective fact, subject to theoretical doubt? (Lewis 1952, p. 170.)

He answers the question with an affirmative. According to him, there is an element in experience which is indubitable: the element of present appearances. These appearances may arise from misinterpretations: we may subsequently come to realize that the way we conceived of some experience was faulty. But nonetheless we experience, in having made our interpretation of what is given to us, the way we do:

When I perceive a door, I may be deceived by a cleverly painted pattern on the wall, but the presentation which greets my eye is an indubitable fact of my experience. [...] The given element is this incorrigible presentational element; the criticizable and dubitable element is the element of interpretation. (Lewis 1952, p. 170.)

When one perceives a door, there is something that satisfies the sense meaning of the concept ‘door’. The fact that the concept is thus satisfied is indubitable. The concept itself is an anticipatory schema that we have committed to in advance to experience, and therefore also indubitable. The applicability of the concept, in turn, requires for there to be something that satisfies it. This conceptual satisfaction may, however, be inadequate: after further scrutiny we may come to realize that what we thought we were perceiving was not, after all, what we at first thought it was. We may come to realize that the experience did, indeed, satisfy our expectations up to a certain point, but that it eventually failed a critical criterion for the concept we originally thought applicable. The given “is the brute-fact element in perception, illusion and dream” (Lewis 1929, p. 57).

The given element is that part of experience which satisfies or fails to satisfy our conceptual interpretation. No concept is ever entirely satisfied – there are always anticipatory criteria that are left unsatisfied: “the real object, as known, is a construction put upon this [given] experience of it, and includes much which is not, at the moment, given in the presentation” (*ibid.*, p. 58).

Insofar as experience satisfies the criteria of our concepts, we are perfectly happy with conceiving of the world the way we do. Insofar as ducks appear to us as ducks and rabbits as rabbits, we shall see no need to check either our concepts or our sensory apparatus.

The account up till now may, however, convey the impression of Lewis as a sense data phenomenalist. This position, supported by e.g. the logical positivists, assumes that we can translate statements referring to existent objects to statements which refer exclusively to actual or possible experience. The key idea behind sense data phenomenism is that experience is constructed out of the sense data that we receive.<sup>82</sup>

The assaults mounted on the misconceived notion of the given as pure sense data, no doubt, culminate in Wilfrid Sellars's highly influential treatise, "Empiricism and the Philosophy of Mind" (1963). Sellars notes:

what is *known* even in non-inferential knowledge, is *facts*, rather than particulars, items of the form *something's being thus-and-so* or *something's standing in a certain relation to something else*. It would seem, then, that the sensing of sense contents *cannot* constitute knowledge, inferential *or* non-inferential; and if so, we may well ask, what light does the concept of a sense datum throw on the 'foundations of empirical knowledge'? (Sellars 1963, pp. 128-129.)

Sellars argues that knowledge cannot concern particulars; knowledge is always, to some degree, conceptual. Yet, he claims, the given consists just of such particulars: the qualities of sensation that are not yet conceptualized. He remarks that the sense datum theorist would here attempt to "have his cake and eat it" (Sellars 1963, p. 129). In other words, the sense datum theorist should here embrace a paradox and claim that knowledge of sense data concerns both particulars and categorial facts. In order for the given to function as the foundation for knowledge and inference, it should itself be non-inferential. But since the given concerns also facts, it must also include an inferential element: by the least that a given quality of experience is similar to some other.

Sellars objects to "inner episodes" that can occur to human beings without concept formation that would subsequently be conceptualized. He claims that the sense data theorist must postulate such entities as sensations of red or the note C# without which it would be impossible to see that something was red, or hear that some sound was C#. (Ibid., p. 132.) In a nutshell, Sellars' argument is that there is no such pure experience that would first be experienced and then conceptualized. All experience, and subsequently all knowledge, is already conceptualized one way or another.

Sellars' argument may be warranted against explicit sense data phenomenists. Lewis, however, is no phenomenalist: his position is, in fact, compatible with Sellars'. His notion of the given is not the notion of preconceptual experience in terms of there being experience that is first somehow received by the senses and then processed. (See e.g. Lewis 1929, pp. 58-59.) Rather, for Lewis also, experience is always already conceptualized. He himself even criticizes the notion of preconceptual experience: if "the given content of perception is first given and then, in a later moment, interpreted, we

<sup>82</sup> See e.g. Schlick (1948) and Carnap (2002). For a detailed discussion of the key differences between the logical positivists and the pragmatists, Lewis included, see Lewis (1941).



have no consciousness of such a first state of intuition unqualified by thought" (Lewis 1929, p. 66).

The sensation of redness or of the note C# require the conceptual understanding of 'red' and 'C#'. They require the possession of some criterion in mind with which we may determine that something is red and something else is not; that something is the note C# and something else is not. Lewis claims as follows: "We do not see patches of color, but trees and houses; we hear, not indescribable sound, but voices and violins." (ibid., p. 54.)

However, in order for such concepts to be applicable, something has to be experienced – something that is not contained in the concepts themselves. Something must satisfy the concepts of 'red' and 'C#' in order for them to apply in the first place. There has to be something that is experienced that satisfies the anticipatory criteria that make up the concepts of C# and red – something that satisfies their sense meaning. We can, abstractly, refer to this as the given.

The critical notion here is of given as an *abstraction*. It does not have an ontological status as sense data that somehow precedes experience. It is rather that element *in* experience that is independent of our own conceptualizing activity. Lewis notes: "Subtract, in what we say that we see, or hear, or otherwise learn from direct experience, *all that conceivably could be mistaken*; the remainder is the given content of the experience inducing this belief" (Lewis 1946, pp. 182–183). The given is an abstraction from what we experience: "The given is *in*, not before experience" (Lewis 1929, p. 55).<sup>83</sup>

Furthermore, as Rosenthal notes, "To abstract does not mean to lift out, or to copy, but to delineate or focus attention upon" (Rosenthal 1976, p. 75). In speaking of the given, we pay attention to that part of our experience that is independent of our own conceptualizing activity.

Murphey (2005, p. 141) drives the point home as follows:

We never perceive the given in isolation any more than we do the concept. In both cases we have an experience, and the given is *in* the experience just as the interpretation is. Both the classificatory concept and the given are abstractions from the concrete experience.<sup>84</sup>

In experience, once we have determined what we ourselves bring to play as our anticipatory conceptual principles, what is left to delimit experience is what actually exists – that is to say, what it in fact is that we do experience in the way we do. The given does not refer to what is experienced. It *abstracts* from it.

Hunter (2007, p. 16) claims that the central issue here is that the given, "unlike our conceptual interpretation of it, isn't alterable by our will." The given is the brute fact of experience – that part of experience that we must

<sup>83</sup> The notion of the given can also be described in terms of Peirce's idea of *hypostatic abstraction*. Peirce (1933, CP 4.235) argued that we may, by hypostasis, or subjectal abstraction, come to argue that a substance that is sweet possesses the property of sweetness. Likewise, it can be argued that an experience that is given possesses the property of *givenness*: that which is not our own contribution to the experience. For a more detailed analysis of hypostatic abstraction, see e.g. Short (2007, pp. 264–270).

<sup>84</sup> Hookway (2008, p. 276) makes the point that the given is "not what we see, but it is a crucial element of our seeing it." He also notes that the given "is not an object of knowledge; nor can it be described" (ibid., p. 280). This sentiment is also shared by Dayton (2006, p. 5).

accept willy-nilly. Even if I can look at the duck-rabbit and see now duck, now rabbit, there is something in front of my eyes that will not go away by a simple act of reconceptualization.

The certainty of the given does not arise from its being consistent in any temporal dimension. I may experience a thing now in one way, and the next moment in another. The certainty of the given arises, instead, from the fact that right now, there is something that I perceive in some fashion – and the quality of this present sensation cannot be brought to doubt. If I have the sensation that I see a duck, it is absolutely certain that I presently experience  $x$  that satisfies the concept of duck. And  $x$ , whatever it is, is what is given to me in experience. The fact that I may have been mistaken in conceiving  $x$  as a duck reduces in no way the certainty that at that particular present moment, there has been something about  $x$  that has satisfied the concept of duck.

Roughly, the given/concepts split could be characterized as a distinction between what we experience and how we experience it. While what is given to us is what it is, we may ultimately classify it however suits us the best – insofar as the given affords such a classification. Various viable ways of classifying experience exist, and each of these ways directs our attention to some aspects of what is experienced, at the expense of something else. In order to guide our attention to the given, *some* forms of classification are, however, required; otherwise experience would remain the unconceptual chaos of sensations a newborn baby first encounters. The classification of experience requires anticipatory schemata that guide our attention to what is experienced: concepts. I shall now turn to study them in greater detail.

### 3.2.3 Concepts

According to Lewis, the given element in experience is what we must accept, come what may. It is the brute fact of experience that we cannot affect by our conceptualizing activity. (Lewis 1952, p. 170.) It is what is left once we strip out of an experience everything we ourselves bring to it. (Lewis 1946, pp. 182-183) Concepts, in turn, guide our attention to what is given in experience. As Rosenthal (1976, p. 21) notes, our “conceptual schemes do not limit or determine the given, but they determine our attention to the given, as well as the attitude we take toward that to which we do attend.”

A concept is the facility or capacity which is required for two important things:

- 1) It allows us to differentiate and classify experience into distinct categories.
- 2) It allows us to successfully share what we experience by the use of language.

Only by having concepts can we make sense of the “buzzing blooming confusion” (Lewis 1926, p. 250) that is given in experience.<sup>85</sup> In order to make

<sup>85</sup> The phrase is originally used by William James in his *Principles of Psychology* (1890): “The baby, assailed by eyes, ears, nose, skin, and entrails at once, feels it all as one great blooming, buzzing confusion” (James 1918, p. 488).

sense of what is given to us by our senses, we need to first anticipate some distinctive regularities on grounds of which we may direct our attention so as to tell certain experiences apart from some others, and to classify certain experiences as akin to some others: "Experience does not categorize itself" (Lewis 1929, p. 14). Lewis also notes: "until we have certain definite concepts or meanings in mind, we cannot even approach the problem of acquiring knowledge of any sorts of things to which such concepts might apply. We have no handle to take hold of them by." (Lewis 1926, p. 245.) Concepts are those criteria in mind on the grounds of which we can guide our attention to what we experience so as to be able to produce consistent results.

The concept can be analyzed in terms of *meaning*:

The concept is a definitive structure of meanings, which is what *would verify* completely the coincidence of two minds when they understand each other by the use of language. Such ideal community requires coincidence of a pattern of interrelated connotations, projected by and necessary to coöperative, purposeful behavior. (Lewis 1929, p. 89.)

A concept is equivalent with the connotation, or intension, of the term that names it. The concept of cat is, therefore, explicable as the intension of the term 'cat'. More specifically, a concept is equivalent with the implicit sense meaning of the term. What has been said of the intensional analysis of terms in chapter 3.1 applies, therefore, also to concepts. To recapitulate, a concept is a disposition or habit on the grounds of which we may classify experience. The concept allows us to guide our attention to some parts of experience at the expense of others.

For example, the concept of duck allows us to pay attention to the relevant features of the duck-rabbit image so as to perceive a duck, whereas the concept of rabbit allows us to pay attention to the same image in a different way, and consequently to perceive a rabbit. Or, to view the issue from another point of view, the duck-rabbit given in experience satisfies the anticipatory criteria of the concept of duck one way, and the anticipatory criteria of the concept of rabbit another way. But it does not, for example, satisfy the anticipatory criteria of the concept of monkey wrench.

When rendered explicit, a concept is a schema: an aggregate of anticipatory criteria on the grounds of which we can determine whether an experienced object falls into one class of objects or another (Lewis 1946, p. 134). These criteria can be expressed as terminating judgments that concern only immediate experience. They may be phrased as counterfactual conditionals of the form "S being given, if I were to do A, E would ensue." (ibid., p. 182 ff.) In other words, they express the anticipation of some consistent effects that should be producible with whatever the concept is applicable to.

Concepts allow us to anticipate results that follow consistently from a certain kind of experience. By being able to anticipate given results consistently, we can classify which experiences are alike and which different. Therefore concepts function as the grounds of differentiating and classifying experience into distinct categories. (Lewis 1929, pp. 99-100.)

Concepts are also needed for sharing experiences. We cannot share what we directly experience. (Ibid., p. 91.) I have no way of determining whether

what I experience as red is the same as what somebody else experiences as red. It could well be that the sensation I experience when I perceive strawberries, tomatoes and fire trucks is the sensation another person experiences when she perceives plums, orchids and violets. If I were to point at a tomato and say, "I see red", she would agree: she would have learned to attribute the term 'red' to the sensation she has when seeing a tomato or a strawberry by our conventions of language use. We cannot, therefore, share what is given to us in experience. But what we can share is what we anticipate from an experience.

An experience functions as a sign of other possible experience (*ibid.*, p. 192). Furthermore, an experience signifies potential future activity. If I see a paper, it signifies, among countless other things, the possibility to write. If I see a door, it signifies the possibility to open it and pass through it. Insofar as we act together in these predetermined ways, we assume that we conceive of our experience in a similar manner. But if one were to scream at the top of their lungs when seeing a paper, or stand on their heads when seeing a door, we would soon come to believe that these people were conceiving of something altogether different from us. We cannot share the ideas in our minds. But by observing the ways we behave, we can infer whether or not we have the same, or similar, concepts guiding our action: "Congruity of behavior is the ultimate practical test of common undertaking" (*ibid.*, p. 90).

When I name the concept of a paper and the concept of a door with the respective terms, I share the potential actions nested in these concepts with another person – assuming that the person understands the concept in similar terms as I do. When I refer to an object by the term 'door', I share some of the potential activity that is involved with what is denoted by that term. No common imagery needs to, nor arguably can, be shared. "It is the congruence of behavior that demonstrates common concepts, and this congruence does not require a sharing of the given" (Murphey 2005, p. 143).

Concepts are anticipatory patterns of potential future action: anticipatory schemata. By designating concepts by terms, we can share and coordinate our actions by the use of language. In this way, concepts allow us to differentiate experience by delineating different possible activities a given experience allows, and to share this experience by pointing to potential future action and behavior by using language.

Concepts are also thoroughly interdependent. Each concept contains intensionally other concepts, which in turn contain intensionally other concepts. All together, the concepts we employ to make sense of the world constitute an intricate network of conceptual principles: the conceptual scheme. I shall now turn to the specifics of the conceptual schemes we employ in making sense of what we experience.

### **3.2.4 Conceptual Principles and the Conceptual Scheme**

According to Lewis, a concept is a pattern of relationships (Lewis 1929, p. 81). When analyzed intensionally, a concept, unless intensionally void, contains other concepts. Just like a term can be analyzed as the conjunction of all the other terms that apply to what the term denotes, a concept can be analyzed as

the aggregate of all other concepts that apply to what is denoted on the grounds of it.

For example, the linguistic meaning of 'cat' contains the term 'animal'. Therefore the sense meaning of 'cat' – the concept of cat – contains the sense meaning of 'animal': the concept of cat contains the concept of animal. Every operation that is required of something that is classifiable as animal is required also of something that is classifiable as a cat. The concept of cat contains, therefore, all the anticipatory criteria that are contained in the concept of animal. Conceptual containment means that no concept stands alone, independently of others. On the contrary, concepts are knitted in an interdependent web that draws the limits of the ways we guide our attention to what is given to us. Concepts, in other words, form a conceptual scheme.

There is a slight ambiguity in Lewis' terminology concerning concepts and conceptual schemes. Namely, he often throws together class concepts such as the concept of cat and the concept of number with more complex conceptual patterns such as the laws of mathematics and the laws of logic and calls all of the above simple concepts. In order to clarify the present discussion, I shall introduce a new terminological distinction. I will refer to simple concepts simply as *concepts*. I will refer to simple concepts and complex conceptual patterns such as laws of logic as *conceptual principles*. Finally, the entirety of conceptual principles forms the *conceptual scheme*. All together, the terms form a three-part hierarchy:

- 1) A *concept* is a unit of conception. A concept is a disposition or habit on the grounds of which we interpret experience
- 2) A *conceptual principle* is either an individual concept or a fixed relationship of concepts.
- 3) A *conceptual scheme* is the entire network of conceptual principles that we employ in interpreting experience.

Concepts are the units of conception. A concept, such as the concept of cat, the concept of number, or the concept of time, is a unitary notion used to discern what is denoted on the grounds of the concept from other things, concrete or abstract. Concepts can also constitute conceptual principles. Single concepts themselves are, of course, simple conceptual principles. But so are such complex conceptual patterns as the laws of logic, or the axioms of mathematics. They are complex conceptual relationships that permeate through the entire conceptual scheme. Conceptual principles consist of concepts and their fixed relationships that we have committed to in order to render experience intelligible.

The entire network of conceptual principles that we employ in rendering experience intelligible is a conceptual system, or to keep with more contemporary vocabulary, a *conceptual scheme*: a pattern of relations of potential future action based on past activity that we resort to in order to understand what we experience. The conceptual scheme is an intricate network of concepts. It consists of all our conceptual principles: all such principles of anticipation

that we commit to antecedently to experience in order to be able to discern what is what when experienced.<sup>86</sup>

Lewis holds that all conceptual principles are not of equal value in a conceptual scheme (Lewis 1929, pp. 305–306). Rather, some conceptual principles are more central to a conceptual scheme and permeate the entire fabric of it, whereas others are more peripheral to it.<sup>87</sup> This explains the predicament Quine brought up in “Two Dogmas”: why some statements are more likely to be falsified by recalcitrant experience. Statements employing explicitly a more fundamental conceptual principle are less likely to be given up in the face of experience than statements employing a more superficial one.

For example, such a statement as “Mars is a planet” attributes the class concept ‘planet’ to Mars. Given sufficient evidence regarding Mars, such attributions may change. Such a statement as “a planet is spherical” would in turn require substantially more radical empirical evidence to be revised. And such a statement as “Mars either is or is not a planet” employs the logical law of the excluded middle, and is subsequently very well guarded against empirical evidence.

A conceptual scheme is hierarchical in nature. The most fundamental level of the conceptual scheme is formed by the laws of logic. These are followed by laws of mathematics. Finally, the most vulnerable level is that of class concepts. Lewis likens the conceptual hierarchy to a pyramid:

the whole body of our conceptual interpretations form a sort of hierarchy or pyramid with the most comprehensive, such as those of logic, at the top, and the least general, such as “swans” etc., at the bottom; that with this complex system of interrelated concepts, we approach particular experiences and attempt to fit them, somewhere and somehow, into its preformed patterns. Persistent failure leads to readjustment; the applicability of certain concepts to experiences of some particular sort is abandoned, and some other conceptual pattern is brought forward for application. (Lewis 1929, pp. 305–306)

Conceptual principles form a hierarchy where logic forms the most fundamental level and class concepts the most peripheral one. No individual principle is immune to change; if a conceptual principle consistently fails to produce successful results, we shall eventually call that principle to doubt.

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<sup>86</sup> Lewis does refer time and again to e.g. “conceptual interpretations” (Lewis 1929, p. 305) and “conceptual patterns” (see e.g. Lewis 1929, pp. 80, 83, 306) in the context of complex conceptual principles. In order to keep the terminology as intelligible as possible, I shall keep to referring to these and any other fixed complex conceptual relationships as conceptual principles. Likewise, I will keep to referring to conceptual schemes in order to keep with the more contemporary terminology, despite the fact that Lewis employed the term ‘conceptual system’. Lewis’ ‘conceptual system’, the term ‘conceptual framework’ employed by e.g. Carnap, and the term ‘conceptual scheme’ made popular by Quine refer effectively to the same thing in the context of the present discourse: the entirety of our conceptual principles.

<sup>87</sup> The temperament here is quite similar to Quine’s conceptual holism (see p. 38 ff. above). It has to be noted, though, that the very notion of the conceptual scheme was somewhat vague for Quine; it certainly was not a technical term, as he once noted in an interview. (Tomida 1994, p. 15.) Lewis, in turn, works his idea of the conceptual scheme into an elaborate and detailed philosophical notion.

Changes in the conceptual scheme are not, however, equal throughout the scheme:

The higher up a concept stands in our pyramid, the more reluctant we are to disturb it, because the more radical and far-reaching the results will be if we abandon the application of it in some particular fashion. The decision that there are no such creatures as have been defined as "swans," would be unimportant. The conclusion that there are no such things as Euclidean triangles, would be immensely disturbing. And if we should be forced to realize that nothing in experience possesses any stability - that our principle, "Nothing can both be and not be," was merely a verbalism, applying to nothing more than momentarily - that denouement would rock our world to its foundations. (Lewis 1929, p. 306.)

No level in a conceptual scheme is immune to change. We may classify our experience any way we want. We can, for example, freely classify a duck-billed platypus as a mammal or as a non-mammal by drawing the criteria of mammality appropriately. The platypus won't care. We could also lump cats and dogs into a single category of 'cags,' just like we lump the two minerals jadeite and nephrite into a single category of 'jade.' There is nothing in experience that necessarily dictates the ways we must classify experience. Some classifications are simply better suited for our purposes than others.<sup>88</sup>

Furthermore, a change in a more fundamental level will reconfigure less fundamental levels accordingly. If we were to categorize cats and dogs as a single class of cags, laws of logic would not be affected. But if we were to relinquish the law of the excluded middle, our entire ways of classifying discrete entities would change dramatically, cats and dogs included.

Finally, the more fundamental a conceptual principle is, the harder it is, in most cases, to give up. Mathematics and logic are the fundament, or core, of a conceptual scheme: "Pure mathematics and logic exemplify that type of the a priori which have the highest degree of abstraction from experience" (Lewis 1929, p. 249). They form thus the central conceptual principles of a conceptual scheme; all subsequent conceptual principles must therefore abide by them. Anything we can rationally say about cats and dogs must follow the laws of logic and the laws of mathematics. Laws of logic and laws of mathematics reflect the application of the anticipatory schemata we employ in guiding our attention. Class concepts in turn reflect the internal structure of such schemata themselves: which criteria are relevant to singling out the entities denoted on the grounds of them; which facets of experience in particular the schemata guide our attention to.

<sup>88</sup> It is interesting to note that one could, perhaps, even introduce wilder disjunctive concepts such as jade or cag. For example, one could regard the duck-rabbit image as an individual image, a 'drabbit'. A drabbit would be, then, somehow simultaneously a duck and a rabbit. Or as an analogy, consider removing the conceptual distinction between yellow and orange. There is nothing in the world that forces us to think of yellow and orange as separate colors: the distinction between the two is completely arbitrary. Therefore we could just as well introduce the category of 'yorange' that consists of all colors previously thought of as yellow or orange. And even more fantastic classifications could be introduced, such as Goodman's grue and bleen: color classifications that depend on the time of classification. (See Goodman 1983, p. 74 ff.)

To sum up, conceptual principles are simple concepts and complex fixed conceptual patterns that we employ to interpret experience. Conceptual principles are thoroughly interdependent: practically all concepts are intensionally related to other concepts. The entirety of our conceptual principles forms a conceptual scheme.

Not all conceptual principles are equal: changes in more fundamental conceptual principles reconfigure the entire conceptual scheme, whereas changes in more peripheral conceptual principles are less dramatic. Changes in class concepts do not affect all the other conceptual principles in a conceptual scheme, whereas changes in the laws of logic would effectively reconstruct the entire conceptual scheme from the ground up.

Conceptual schemes are not fixed or static. Rather, they evolve as we learn to interrogate experience more efficiently. Conceptual schemes are, therefore, thoroughly malleable and plastic. I shall now turn to scrutinize this inherent plasticity of the conceptual scheme in greater detail.

### 3.2.5 The Plasticity of Conceptual Schemes

According to Lewis, there is always an element of choice involved in committing to a particular conceptual scheme (Lewis 1929, p. 299). Lewis advocates, in other words, conceptual relativity: the world can be interpreted correctly in terms of many mutually exclusive conceptual schemes (*ibid.*, p. 166).<sup>89</sup>

There is no one single privileged conceptual scheme that we should commit to. Rather, some conceptual schemes work for some purposes, and others for some others. There are various viable ways of conceiving of the world. Making geometrical measurements in a Euclidian framework produces different results than those made in a Riemannian framework. Nonetheless, both measurements can be applied to the same object of study: the experienced world. Both frameworks provide a consistent way of carrying out geometrical measurements.

As Lewis (1926, p. 257) points out, "the truths of experience must always be relative to our chosen conceptual systems in terms of which they are expressed; and that amongst such conceptual systems there may be choice in application." There is always a choice involved in our commitment to a

<sup>89</sup> Conceptual relativity has been a topic of heated discourse for at least the last six decades. Prominent defenders of conceptual relativity are Benjamin Whorf and Edward Sapir (Whorf 1956), classical pragmatists such as William James (1909) and John Dewey (2008), contemporary pragmatists such as W.V.O. Quine (1968), Hilary Putnam (1990) and Richard Rorty (1980), and the philosopher of science Thomas Kuhn (1962). Pihlström (2003, p. 292), drawing from a wide pool of philosophy from Kant to Wittgenstein, from Heidegger to Husserl, from Peirce to James, expresses the core argument of conceptual relativism as follows: "We always work from within one or another framework – this is the most universal transcendental truth about us – but what those frameworks are is always subject to reinterpretation." For critical commentary, see e.g. Davidson (1973). Davidson argues that conceptual relativism produces a new dualism, the scheme-content dualism, that encounters similar problems as the sentence-proposition dualism it was supposed to salvage us from: we cannot specify the limits of conceptual scheme and empirical content. Davidson ends up quipping that Quinean conceptual relativism is, in fact, the *third* dogma of empiricism.



conceptual scheme: we could always conceive of what we experience differently than we do.

In commenting on Lewis' philosophy, Victor Lowe (1968, p. 33) phrases the issue concisely: "Since concepts are essentially instruments, replacement is authorized if the new concepts promise to be substantially more useful than the old." Concepts are instruments we use to make sense of what we experience. If new instruments suit our needs better, the abandoning of the old instruments is warranted.

Conceptual schemes also undergo evolution both on an individual and on a social level: "There will be no assurance that what is a priori will remain fixed and absolute throughout the history of the race or for the developing individual." (Lewis 1929, p. 233.) Conceptual schemes evolve as we learn to interpret experience more expediently. Functional conceptual principles are conserved, and dysfunctional conceptual principles are eventually weeded out. As Lewis (1926, p. 254) points out,

the growth of knowledge is a process of trial and error, in which we frame the content of the given now in one set of concepts, now in another, and are governed in our final decision by our relative success - by the degree to which our most vital needs and interests are satisfied.

Conceptual schemes evolve both as an individual learns to interpret her experience better to suit her needs, and as the society develops new and better ways of understanding. Conceptual schemes undergo therefore a double evolution: both as concerns personal development, and as concerns the history of a society: "While we socially inherit most of our meanings, or come by them as result of psychological associations established by experience, still we are responsible for correcting and refining them, and for considered and critical application of them" (Lewis 1968b, p. 662).

When a child learns that the whale is in fact mammalian, she experiences an intensional shift: the classification of whales as fish is acknowledged as invalid, and the aquatic creatures are attributed the property of being mammalian. In terms of intension, more specifically linguistic meaning, 'fish' is excluded from the intension of 'whale', and 'mammal' is introduced therein. This has profound effects on such concepts that include 'whale' in their intension, such as the concept of the humpback whale and the concept of the blue whale.

More profound shifts may also take place. For example, a person may first become deeply versed in first order predicate logic, which may delineate that person's fundamental way of making judgments and drawing inference. She may then learn about the logical anomalies produced by quantum mechanics, which may lead her to adopt a completely new kind of fundamental position concerning the world.<sup>90</sup> She may then embrace, for example, the notion that quantum logic is the most fundamental logic.<sup>91</sup> Such a conceptual shift has more

<sup>90</sup> See footnote 3 above.

<sup>91</sup> Putnam, for example, has argued forcibly in favor of quantum logic's being adopted as the fundamental logical framework, on the grounds that classical logic cannot accommodate for the anomalies of quantum mechanics, which reflects arguably our most fundamental knowledge of the physical constitution of the world. For further reading,

profound consequences, effectively affecting the entire worldview of the person; whereas shifting from whales-as-fish to whales-as-mammals hardly makes a difference in the worldview.

A recent example of the plasticity of conceptual principles is the case of Pluto. Up until 2006 Pluto was classified as a planet, owing to its conforming to the intensional criteria of the term 'planet'. During the early 21<sup>st</sup> century, a number of heavenly bodies were discovered in the proximity of Pluto that presented the astronomers with a dilemma: either one should accept these new discoveries to the host of planets, thus increasing the number of planets radically, or one should re-define the criteria of 'planet' so as to exclude the new discoveries from planethood. The problem was that no such criteria could be thought of that would not at the same time exclude also Pluto from this position.

After heated debate, the International Astronomical Union finally chose the latter option. The concept 'planet' was redefined in 2006 to include as a criterion "has cleared the neighborhood around its orbit." (IAU 2006.) Thus Pluto no longer qualified as a planet. Pluto, along with such newly-made discoveries as Eris and Makemake, was given the status of 'dwarf planet', thus introducing a new category to account for these objects. The decision made by IAU reconfigured the class concept 'planet': the intensional criterion "an object that has cleared the neighborhood around its orbit" was added to it.

The ways in which we classify and judge experience may also change radically as our culture changes, as is evident in such scientific revolutions as the Copernican shift and the special theory of relativity. In these cases scientific discovery has led to our abandoning out-dated conceptual principles wholesale throughout our entire culture in order to embrace such conceptual principles as heliocentricity and the relativity of space-time, which yield more comprehensive scientific theories than their predecessors.

In Lewis' framework, the restructuring of the conceptual scheme produces something akin to what Thomas Kuhn later called the paradigm shift: the adoption of a completely new conceptual scheme that is thoroughly differently configured from the old one.<sup>92</sup> As Lewis holds, in the evolution of conceptual schemes,

the truth remains unaltered and new truth and old truth do not contradict. Categories and concepts do not literally change; they are simply given up and replaced by new ones. [...] Any contradiction between the old truth and the new is *verbal only* [...]. (Lewis 1929, p. 268.)

The intensional relationships between concepts are notably different throughout the old conceptual scheme and the new. Therefore also the truth of

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see e.g. Putnam (1968).

<sup>92</sup> The Kuhnian paradigm shift is construed as a profound enough change in the basic assumptions within the ruling theory of science that renders the old and new views mutually unintelligible, or incommensurable. Typical examples of paradigm shifts are the Copernican turn, the introduction of hyperbolic geometries and the replacement of Newtonian mechanics with quantum mechanics and the general theory of relativity. See Kuhn (1962). There are strong similarities between Lewis' construal of the plasticity of conceptual schemes and Kuhn's philosophy of science. As Fuller (2000, p. 268) points out, Lewis' notion of the nature of concepts anticipates the Kuhnian turn.

statements will be different in the old scheme and the new: “Old truth will pass away when old concepts are abandoned. New truth arises when new interpretations are adopted.” (Lewis 1926, p. 255.) In the pre-2006 conceptual scheme, the statement “the number of the planets is nine” was true. In the post-2006 conceptual scheme, it is flatly false: there are only eight objects that satisfy the intensional criteria of the term ‘planet’.

Lewis also holds that in the evolution of concepts, new and old conceptual truths do not actually contradict one another. Old truths still hold, reflexively to the old way of thinking – the old conceptual scheme – whereas new truths require a new way of thinking entirely. (Lewis 1929, p. 268.) The term ‘planet’ may name two different concepts. One of them includes as an intensional criterion “has cleared the neighborhood around its orbit,” and the other one does not. The latter concept, while now abandoned, does not, in a sense cease to exist: it still exists provisionally. Provided that we were to return to the pre-2006 definition of ‘planet’, that concept would, once again, be accurate. In the case of planethood, the 2006 decision has simply shifted our attention with respect to what we expect to find when we expect to find a planet. Or, to paraphrase, what we pay attention to when judging whether to include an object in the class of planets.

To take another example, if every person on Earth were to adopt strictly Riemannian geometry, would the conceptual relationships that hold within Euclidean geometry cease to exist? Even if Euclidean geometry was thrown totally and irrevocably out of court, its truths would still hold, reflexively to the Euclidean axioms. In other words, even if nobody would ever again use the Euclidean system, we could nonetheless point out that were somebody to adopt it, such and such relationships would hold. Euclidean geometry still makes a valid framework for carrying out geometrical measurements. “Rejected systems [...] remain consistent logical systems, and any empirical claims that were true relative to that framework remain true relative to that framework” (Rosenthal 2007, p. 55).

While the picture Lewis paints is thoroughly dynamic and relational, it does not collapse into relativism or skepticism. What is produced is an epistemology of relations of what exists reflexively to a system of anticipatory schemata we utilize to make sense of it. In other words, while we may ultimately only ascertain relationships, we may ascertain *real* relationships. This leads to an intriguing conclusion that strikes one at first glance as paradoxical: conceptual principles are both malleable and universal at the same time. What this means is that conceptual principles are *provisionally universal*. This notion will be studied in greater detail in chapter 3.3.2 below.

### 3.2.6 Summary

Lewis' conception of a priori knowledge is rooted on pragmatic soil. It starts from the Kantian position that the experiencing subject has an active role in constructing experience. Unlike Kant, who assumed that there were necessary categories to limit experience, the pragmatist embraces a fallibilistic position. In Lewis' epistemology, various possible viable perspectives to the world are

accepted. Lewis shares this position with the classical greats of the pragmatist tradition, such as Peirce, James and Dewey.

Lewis distinguishes in experience the element that is independent of the experiencing subject, what the subject herself brings to experience and the act of interpreting the former in terms of the latter. The independent element – the given – is not an object of knowledge, and can only be separated in experience by abstraction. Lewis is no sense data phenomenalist, nor does he promote a position of pure experience that is subsequently classified. Experience is always conceptualized. But experience for those parts which do not depend on our concepts is what is given to us. What is given in experience is the brute fact: that which we must accept willy-nilly; that which we cannot change, no matter what.

We can, however, guide our attention to what is given to us. To this end, we need some such antecedent criteria on the grounds of which we can determine how to classify what we experience. In other words, we need concepts. A concept is what a term names. A concept is a network of relations that allows us to do two things. First, it allows us to classify and differentiate experience. And second, by naming the concept by a term, it allows us to share our classifications. Concepts provide us with such criteria on the grounds of which we can classify and differentiate experience.

What has been said about the sense meaning of terms applies to concepts. A concept, when implicit and in use, is a disposition or habit on the grounds of which we can interpret experience. When rendered explicit, a concept is an anticipatory schema which can be expressed in terms of immediate experience that would corroborate the denotation of the term that names the concept. Concepts are also social by nature. We cannot share private imagery. But by pointing out potential results and behavior by naming them with a term, we can share concepts.

Conceptual principles are either simple concepts, such as the concept of cat or the concept of number, or complex conceptual relationships, such as the laws of mathematics and the laws of logic. Conceptual principles contain other conceptual principles. Therefore conceptual principles are networked and thoroughly interdependent. The entirety of conceptual principles entertained by a person or a group of people constitutes a conceptual scheme. Not all conceptual principles are, however, equal. Some conceptual principles, such as the laws of logic and mathematics, are more fundamental than others, such as class concepts. Laws of logic form the fundament of a conceptual scheme, followed by the laws of mathematics and ultimately by class concepts. All laws of mathematics are subject to the laws of logic, and all class concepts are subject to both laws of mathematics and laws of logic.

Conceptual schemes are not fixed structures. Rather, they evolve both in the subjective dimension as a person learns to apprehend the concepts used in her culture, and in the social dimension, as a culture learns to interrogate experience more expediently. Changes in the more fundamental conceptual principles are reflected throughout the conceptual scheme, whereas changes in a more peripheral conceptual principle cause less fundamental changes in a conceptual scheme. A change in a fundamental conceptual principle causes in effect what Thomas Kuhn later characterized as a paradigm shift: a change of

conceptual scheme of such profundity that the old and new conceptual schemes are incommensurable: they cannot be judged by a shared standard. Finally, conceptual principles that hold in a discarded conceptual scheme do not become false. Rather, they remain true reflexively to that conceptual scheme. Were somebody to re-adopt a discarded conceptual scheme, its conceptual principles would hold true like the conceptual principles that are entertained in our present conceptual scheme.

### 3.3 A Priori Knowledge and Concepts

According to Lewis, a priori knowledge concerns solely concepts (Lewis 1929, p. x). To keep with the terminology adopted above, in chapter 3.2.4, conceptual principles are the objects of a priori knowledge. Therefore, the entirety of what can be known a priori is the entirety of our conceptual principles: the conceptual scheme.

There are two reasons why this is the case. The first reason is that we need no experiential corroboration to establish the existence of relationships between concepts. (Ibid., p. 230.) We can perform intensional analysis, a non-experiential activity, on a conceptual scheme and in that way establish the existence of certain relationships between concepts. Intensional analysis functions, therefore as the non-experiential justification that is required of a priori knowledge.

The second reason is the classical Kantian one: we cannot know independently of experience but what we ourselves bring to experience. Knowing what is given in experience always demands experiential corroboration. Only the conceptual principles that guide our attention that we have committed to antecedently of experience can be known independently of experience. (Ibid., pp. 230–231.)

Because conceptual principles are anticipatory to experience, they are legislative with respect to it (ibid., p. 224). Conceptual principles guide our attention in what we experience. How this attention is guided depends on the sense meaning of the conceptual principle: the anticipatory schema that enables us to single out and classify objects in experience. Because concepts are anticipatory and legislative to experience, they are also, in an almost paradoxical sense, universal: they hold, come what may, insofar as we commit to them. Conceptual principles are, in fact, provisionally universal: they hold universally as long as a given conceptual scheme is adopted. (Ibid., pp. 231–232.)

The provisional universality of conceptual principles gives also a dimension of metaphysical necessity to a priori knowledge. Conceptual principles, and consequently a priori knowledge, hold come what may. A priori knowable truths are, therefore, necessary truths, as seen within the scope of a particular conceptual scheme. While the necessity of a priori knowable conceptual principles arises from our commitment to them, their *metaphysical* necessity arises from the fact that we have, for one reason or other, seen it expedient to commit to them. In our conceptual principles' expediting our

pursuits in the world, they also reflect, albeit aspectually, the very fundamental metaphysical nature of the world. (Ibid., p. 155.)

Finally, reality, consistency or veridicality cannot function as the criteria on the grounds of which we commit to a conceptual scheme. What is real and what is true arise reflexively to the conceptual scheme itself. (Ibid., p. 225.) Furthermore, there are several equally consistent conceptual schemes we can choose from. The commitment to a particular conceptual scheme arises from the fact that the conceptual principles therein somehow work – that they somehow enable us to satisfy our wants and needs. A conceptual scheme is adopted on the grounds of pragmatic criteria such as comprehensiveness, simplicity and expediency. (Lewis 1926, p. 257.) Therefore, the ultimate nature of the conceptual scheme, and consequently a priori knowledge that targets the conceptual scheme, is pragmatic.

In what follows, the nature of a priori knowledge is studied in detail. First, the relationship of a priori knowledge and conceptual principles is established. Then, the provisional universality of conceptual principles, and consequently the metaphysical necessity of a priori knowable truths, are studied. Finally, the pragmatic nature of a priori knowledge is elucidated in detail.

### 3.3.1 Conceptual Principles and A Priori Knowledge

A priori knowledge is knowledge that targets concepts and their relationships. There are two reasons why this is the case:

- 1) A priori knowledge arises from the analysis of conceptual principles: practices that are nested in the conceptual scheme we are, by convention, committed to.
- 2) Conceptual principles are knowable a priori, because in order for them to be useful they must precede experience.

A priori knowledge concerns concepts: “That truth which is a priori rises from the concept itself” (Lewis 1929, p. 230). It targets the conceptual principles that we use to classify experience. A priori knowledge concerns the practices of interpretation and classification embedded in the conceptual scheme we are committed to: “The a priori is knowable simply through the reflective and critical formulation of our own principles of classification and interpretation” (ibid., p. 232).

A priori knowledge concerns the conceptual principles that we have committed to that guide our attention in experience. These principles reflect our practices of interpreting experience and acting in the world. (Ibid., p. 230.) Many such practices are implicit: we have learned to classify experience one way and not the other by acting in the society we live in. Therefore much of what is knowable a priori demands great exertions to discover. Consider the analogy of human anatomy: we are built in a given way, but we can discover the make of our own body only by extensive studies. Likewise, we are committed to a given conceptual scheme, but in order to render its structure explicit, extensive studies are required. Whether we know it or not, the heart

keeps on beating. And whether we know it or not, cats keep on being classified as animals.

Once we discover an a priori knowable truth, we come to render explicit something that we have already practiced. By coming to understand that “all cats are animals” we come to understand, that it is, and has been, a practice in our conceptual scheme that anything that is not named an animal is not named a cat. By understanding “all cats are animals” we come to understand the practices that are embedded in our uses of the terms ‘cat’ and ‘animal’. Understanding “all cats are animals” is equal to understanding the operational conditions regarding the use of ‘cat’ and ‘animal’. We never allow for something to be denoted by ‘cat’ without its being denoted by ‘animal’.

As was argued in chapters 3.1 and 3.2.3, we come to understand conceptual principles by intensional analysis. In intensional analysis the relationships that obtain between conceptual principles are laid explicit. Since intensional analysis is an activity that is independent of experience, knowledge justified by intensional analysis qualifies as a priori knowledge.

Conceptual principles must also precede experience, because they are the principles to which we first commit in order to make sense of what we then experience. Conceptual principles are legislative to experience. (Ibid., p. 197.) They determine how we guide our attention to what is given in experience: to which regularities we pay attention to, and which we discard as redundant. In order for them to be useful, conceptual principles must precede experience: “Until the criteria of our interpretation have been fixed, no experience could be the sign of anything or even answer any question” (ibid., p. 230). Also: “we cannot capture the truth of experience if we have no net to catch it in” (ibid., p. 307).

How could we make sense of experience if there were no criteria on grounds of which we could decide whether a thing belongs in the same class with another thing, and is therefore different from yet others? There are an infinite variety of shades of red, and nonetheless we can easily classify red objects together. Two different shades of red are two *different* shades. Their being classified together demands, therefore, some such criterion on grounds of which we may rule that the red of the rose and the red of the fire truck are somehow the same thing.

Conceptual principles are knowable a priori because we make a categorical commitment to their truth antecedently of experience (ibid., p. x). The fact that they seem like universal laws is simply because were we to encounter an experience that was at odds with such laws, we would simply rule that experience out as non-veridical. Experience that does not conform to our conceptual principles is thrown out of court as unreal: “We know that any experience which does not conform to our categorical principle will not be veridical because the principle states the *criteria* of reality of that categorical type” (ibid., p. 225.)

Even hallucinations are, in a sense, *real*: they are *real hallucinations*. The fact that we classify some experience as hallucinatory, but others as not simply depends on the criteria on the grounds of which we identify hallucinations. In a famous quote Lewis quips that a “mouse which disappears where there is not a hole, is no real mouse” (ibid., p. 261). We assume, antecedently to experience,

that mice do not vanish on their own accord. If our experience would stand contrary to such an assumption, we would no doubt precipitate to classify the experience itself as faulty, or look for hidden factors.

For all those conceptual principles that we choose to maintain as categorical laws in the face of all experience, no experience can overthrow them:

The only sense in which categorical interpretation can be a priori is the sense that the *principle* of this interpretation is not subject to recall even if, in the particular case, what is given should fail to conform. That is a priori which we can maintain in the face of all experience, *no matter what*. In the case of an empirical law, a mere generalization from experience, if the particular experience does not fit it, so much the worse for the "law." But in the case of the categorical principle, if experience does not fit it, then so much the worse for the experience. (Lewis 1929, p. 224.)

Conceptual principles precede experience because we will not give them up in the face of any particular experience. They are the legislative principles we commit to in order to make sense of what we experience. Because conceptual principles precede experience, and because knowledge concerning them requires no experiential justification, knowledge concerning conceptual principles is a priori knowledge.

Conceptual principles are legislative to experience because they direct our attention in what we expect to experience. They are protected from experience because if we were to experience something at odds with our conceptual principles, we would simply rule that experience as non-veridical. The categorical commitment to the conceptual principle is independent of experience in the sense that we are committed to the principles in the face of all imaginable experience, insofar as we hold on to the present conceptual scheme.

Once we fix our criteria of interpretation and commit to a conceptual scheme, it holds universally with respect to everything we experience. As I argued above, in chapter 3.2.5, conceptual schemes are, however, also plastic. They evolve both on a subjective and on a social level. This seems to lead to a paradoxical position: conceptual principles both are and are not universal. The paradox is dispelled by calling up *provisional universality*. I shall now turn to this topic.

### 3.3.2 The Provisional Universality of Conceptual Principles

Once we have committed to a set of conceptual principles – a conceptual scheme – those conceptual principles hold come what may. As was seen above, they are not vulnerable to experience because any experience at odds with the conceptual principles would be thrown out of court as unreal. They are, rather, legislative with respect to everything we experience. Therefore conceptual principles function as the fundamental categorical laws in the light of which we interpret experience. (Lewis 1929, p. 224.)

Conceptual principles are not, however, fixed. Our conceptual schemes evolve on both individual and social levels, as was argued in chapter 3.2.5. Therefore, no classically rigid universality, as was described in chapter 1.1, can be assumed. From the fundamental nature of conceptual principles and from the plasticity of conceptual schemes, we seem to land at a paradox: conceptual



principles both are and are not universal at the same time. This conclusion is, indeed, accurate.

As Hunter (Hunter 2007, p. 9) notes, the "*a priori* is what we are prepared to accept, no matter what experience may bring, and in that sense, true no matter what, and in that sense necessary. However, *a priori* principles are neither principles that are universal nor ones that we have to accept." To avoid the paradoxicality of the conclusion, I will introduce here the notion of *provisional universality*. Provisional universality explains both the plasticity of conceptual schemes and the fundamentality of conceptual principles.

Provisional universality is characterized by Lewis in the following passage:

If relative to R, A is X, and relative to S, A is Y, neither X nor Y is an absolute predicate of A. But "A is X relative to R" and "A is Y relative to S", are absolute truths. Moreover, they may be truths about the independent nature of A. Generally speaking, if A had no independent character, it would not be X relative to R or Y relative to S. These relative (or relational) characters, X and Y, are partial but absolutely valid revelations of the nature of A. (Lewis 1929, p. 168.)

Let us say that Jack is in the possession of the concept of duck but not that of rabbit, and Jill is in the possession of the concept of rabbit but not that of duck. When shown Jastrow's duck-rabbit (DR), Jack can only see a duck, and Jill can only see a rabbit. Nonetheless the image allows both interpretations. They are both valid interpretations of the image. "DR is a duck" and "DR is a rabbit" are both thus provisionally true statements, respectively to the conceptual principles employed by Jack and Jill. There exists something, DR, that satisfies both Jack's duck-interpretation and Jill's rabbit-interpretation.<sup>93</sup>

Conceptual schemes are plastic in the sense that there are always alternatives to the ways we conceive of the world. The fact that we can present indefinitely many viable ways to describe the world endows us with indefinitely many mutually exclusive conceptual schemes. But insofar as a given conceptual scheme is employed, its fundamental principles are our go-to principles on the grounds of which we determine how our experience is classified. Therefore, reflexively to each conceptual scheme, its conceptual principles hold universally. (Lewis 1929, p. 272.)

Lewis notes as follows:

It will be evident that the absoluteness of such *a priori* principles whenever and wherever they are held, is entirely compatible with their historical alteration, just as modes of classification or alternative reference systems, expressible in definitive principles of initial prescriptions, would be absolute while adhered to, but might be subject to considerations of usefulness and to historical change. (Lewis 1930, p. 17.)

<sup>93</sup> A similar issue is raised by Gibson in his talking about affordances: objects offer various possible actions, but the ability to perform such actions depends also on the person using the object. (See e.g. Gibson (1979, p. 127 ff.)) Ronald Giere (2003) addresses this topic in his enlightening article "Perspectival Pluralism," where he notes that objects appear in different colors depending on the cellular composition of the eyes of the observer. Color is, therefore, a property that is reflexive to the optical system used in perceiving. See also Bradley & Tye (2001) for a similar notion.

To elucidate the issue by the way of an analogy from physics, conceptual principles are universal quite in the same sense as relativistic velocity is absolute. Velocity is absolute and relative at the same time. The actual quantified measurement of the velocity of a given object depends on the frame of reference. But the object is, nonetheless, moving at some speed with respect to other objects. This movement can be measured as various values produced reflexively to various frames of reference.

In one sense, saying that an object has a velocity independent of a frame of reference is nonsensical. Before we fix *some* point of view, the object is not in motion. There is no absolute space with respect to which the object can be said to move, at least insofar we can count on the general theory of relativity.<sup>94</sup> Likewise, claiming that an object is something or other independently of a conceptual scheme is nonsensical. Saying that an object is something is equivalent to saying that it is similar to some things and different from some others. This in turn requires concepts: some such criteria on the grounds of which we can determine such classification and differentiation. (Lewis 1929, p. 14.) There is no God's Eye View with respect to which we may rule what each given object is independently.<sup>95</sup>

But in another sense the idea of the independent velocity of the object is not nonsensical. There is something about the object that once we measure its speed from a fixed frame of reference, we get consistently specific results. Let us say, we shoot a rocket to the Moon. To construe an example by paraphrasing Lewis' quote, *mutatis mutandis*, from above:

If relative to the Earth (E), the Rocket (R) moves at speed X, and relatively to the Moon (M), R moves at speed Y, neither X nor Y is the absolute speed of R. But "R moves at speed X relative to E" and "R moves at speed Y relative to M" are absolute truths. Moreover, they may be truths about the independent nature of the motion of R. If R had no independent characteristic motion, it would not be moving at speed X relative to E, or Y relative to M. These relative (or relational) characteristics, X and Y, are partial but absolutely valid revelations of the nature of R. (Cf. Lewis 1929, p. 168, quoted above on page 110.)

As what comes to our interpreting experience, there is something about the way the world is configured insofar as an experience of a particular object is considered that once we regard it in the context of a given conceptual scheme, that object will appear as a specific discrete object with identifiable and sharable characteristics. (Lewis 1929, p. 130.) There is something about the nature of Jastrow's image that satisfies the criteria of 'duck' and the criteria of 'rabbit', but not the criteria of 'monkey wrench.' While we cannot specify what this nature is, in some *an sich* metaphysical sense, something must exist that is configured so as to afford the satisfaction of the concepts of duck and rabbit: "'Thing as known' is a function of two variables; it depends on the mind, but also it depends on the thing" (ibid., p. 187).

Conceptual principles are both relative and universal at the same time. They are relative in the sense that conceptual schemes may change through

<sup>94</sup> This point is raised explicitly by Einstein (2006).

<sup>95</sup> This point has been later emphatically defended in particular by Hilary Putnam. See e.g. Putnam (1990).

subjective and social evolution. But they are universal in the sense that once a given conceptual scheme is adopted, its conceptual principles hold, come what may. Because the principles themselves draw the boundaries of the real and the true, no experience can in itself overthrow them.

Because conceptual principles are universal reflexively to a conceptual scheme, they are provisionally universal. They are true without exception, provided that a given conceptual scheme is adopted. Conceptual principles, however, also bear a deeper metaphysical dimension: they reflect, aspectually, how things stand. The usefulness of some conceptual principles and not others is the criterion on the grounds of which we can infer that they reflect some actual regularities and lawlikenesses. Because conceptual principles reflect such regularities, and because we have committed to them in the face of all experience, truths that concern conceptual principles are also metaphysically necessary. Let us now scrutinize this notion in greater detail.

### 3.3.3 The Metaphysical Necessity of A Priori Truth

While Lewis' position on a priori knowledge is restricted to the realms of epistemology and semantics, there is a profound metaphysical dimension to it as well. In fact, in terms of Lewis' position, we arrive at a conclusion that sounds very close to the classical positions on a priori knowledge: a priori knowable truths are *metaphysically necessary*.

There is, however, an ambiguity in the way Lewis employs metaphysical terms, most importantly the term 'real'. Lewis employs this term to denote both what is real independently of the experiencing subject and what is denoted as real in terms of the currently employed conceptual scheme. In MWO, Lewis writes, for example, about the relationship of the given and reality (Lewis 1929, p. 157) and the presentation and reality (*ibid.*, p. 159), referring by 'reality' to that which is independent of the conceptual interpretation put upon it. Elsewhere, Lewis speaks explicitly of 'independent reality' (Lewis 1955, p. 339) and 'ultimate reality' (*ibid.*, p. 340). In MWO, he also writes, however, that "decisions of reality and unreality are themselves interpretations involving principles of the same order as scientific law" (Lewis 1929, p. 261) and "whatever is denominated 'real' must be something discriminated in experience by criteria which are antecedently determined" (*ibid.* 1929, p. x), restricting here the term 'real' to mean what is judged to be real in terms of the accepted conceptual scheme.

To avoid this ambiguity, I will introduce a terminological division of two ways of employing the term 'real':

- 1) *The real* means whatever is construed as real on the grounds of the conceptual principles accepted within a conceptual scheme.
- 2) *The metaphysically real* means whatever there is that exists independently of the observer.

As I argued above, in ch. 3.3.1, what is considered *real* depends on the conceptual principles employed within a conceptual scheme. There is, however, a dimension that renders a further degree of the *metaphysically real* to our

experiences. From whatever we experience, we can infer that whatever is given to us in that experience independently of our constructive activity in making sense of it at least has the metaphysically real property of its being conceivable in the present fashion. (Lewis 1955, p. 344.) In other words, while we cannot infer from experience the entire nature of any object of experience – we could always be dreaming or brains in a vat – we can still infer that regardless of whether that object is made of atoms, dream images or a stream of bits, it allows for it to be interpreted in the way that we presently do. While the object in its entirety remains unknowable, we can know from experience some aspects of its metaphysical reality: “We never know or can know all the properties of any individual thing, but what we do or may know is metaphysically veridical; these properties are in the things themselves as in our knowledge of them.” (Lewis 1955, p. 345.)<sup>96</sup>

If we explicate the structurality of our conceptual principles, we render at the same time explicit some such relationships that also bear a reference to what actually exists. The truth of the statement “all cats are animals” is not a merely conceptual truth: it is an a priori knowable truth that all the actual cats that there are and possible cats that there could be are, in fact, animals – regardless of what cats, in the totality of their all attributes, are. The world is certainly structured some way and not the other to allow the applicability of such a conceptual principle. Not anything whatsoever can be conceived of as cats on a whim. And nothing that cannot be conceived of as an animal can be conceived of as a cat.

Rosenthal (2007, p. 98) frames the point as follows:

if the epistemic process is such that knowledge arises by the application of concepts to an independent element, then certain conditions must hold of this independent

<sup>96</sup> Putnam criticized this kind of a position, calling it the “cookie cutter” metaphor. Putnam denies that there is any “fact of the matter” of which conceptual schemes are actually true (Putnam 1990, p. 96). In a famous example he pits the ontological models of Rudolf Carnap and Stanisław Leśniewski against one another in an imaginary world of three objects,  $x_1$ ,  $x_2$  and  $x_3$  (ibid., pp. 96–97). Putnam then proceeds to argue that Leśniewski’s mereology in fact yields here *seven* objects instead of three. Thus, there is arguably a single world that can either be interpreted as consisting of three objects à la Carnap, or seven à la Leśniewski. Putnam then presents the crux of his argument: what are the parts of this “dough”? Are they  $x_1$ ,  $x_2$  and  $x_3$ , or rather  $x_1$ ,  $x_1+x_2$  and so forth? According to Putnam such questions cannot be answered at all, because “there is a limit to how far questions make sense” (ibid., p. 97). Lewis would, of course, concede to the fact that we cannot say which objects are the primary metaphysically real objects of the “dough”: “if some exquisite and super-precious ‘being-in-itself is to be attributed, then I think that at least it is inexpressible” (Lewis 1955, p. 342). He also emphasizes that we “never know all the properties of any individual thing, and never can have such exhaustive knowledge of any” (ibid., p. 345). Where Lewis differs from Putnam’s argument is, however, that while we cannot say what the parts of the “dough” are, in some *an sich* fashion, we can say that from what we experience we can infer that *whatever they are themselves*, they have at least the metaphysically real property of being *experienceable* as they are. While the world can be interpreted in an innumerable variety of ways, it cannot be interpreted in any way whatsoever. Experience of the property of an object is a *relation*: it depends as much on the subject as it does on the object. (ibid., p. 346). But from the fact that it does depends *also* on the object, it can be inferred that there is some property – a potentiality or a reliable disposition – in the object, whatever it is in itself, that allows such an experience.

element. In short, the universe must be one that allows for the knowledge situation as Lewis's pragmatic epistemology interprets it.

For the attribution of animality to cats to work, the metaphysical reality need not be made of atoms; it could just as well be made of dream images or bits. But however the metaphysical reality is configured it must be so configured that the attribution of animality to cats makes sense. Otherwise such a classification would be utterly useless to us. What is metaphysically real must, therefore, be in such a way structured as to render such an attribution useful for our purposes. While it follows from Lewis' position that a priori knowledge reflects only what we are conceptually committed to, these commitments themselves also bear a link to the metaphysically real by virtue of their being such commitments that work. Those regularities that we anticipate in terms of such commitments must somehow be genuine: "Our categories are guides to action. Those attitudes which survive the test of practice will reflect not only the nature of the active creature but the general character of the experience he confronts." (Lewis 1929, p. 21.)

A priori knowable truths are not material truths, but truths that are definitive to experience (ibid., p. 231). A priori knowledge concerns expectations, not observations. But what we come to expect arises from what we observe. As I argued in chapters 3.2.3 and 3.2.5, we come to possess conceptual principles by acting in a social community. Our first apprehension of such principles is, of course, experiential. But once we come to possess them - once we come to understand how our language and our practices work in our society - we no longer need to recourse to experience to corroborate statements that express their relationships.<sup>97</sup>

We have originally come to realize that cats are eukaryotes, or that water is H<sub>2</sub>O by scientific experiments. But now that we have made such a commitment, the statements "all cats are eukaryotes" and "water is H<sub>2</sub>O" hold a priori. We do not need to consult further experience to establish that if Kitty is a cat, Kitty is a eukaryote, or that if that substance in the glass is water, it is H<sub>2</sub>O. Were something to turn out not to be a eukaryote or H<sub>2</sub>O, we would exclude that something from the class of cats or water, respectively.<sup>98</sup> Once I

<sup>97</sup> The point here is similar to the issue Kant raised in the introduction to the first *Critique*: "although our cognition commences with experience, yet it does not on that account all arise from experience" (Kant 1998, p. B1).

<sup>98</sup> This position can perhaps be used to promote a case against the Kripkean notion of a posteriori analyticity (see Kripke 1980). The evolutive process, involving scientific experiments, has produced the intension for the class term 'water': the intension of 'water' contains 'H<sub>2</sub>O'. Therefore, we can know a priori that were water put in a glass, the glass would contain H<sub>2</sub>O. Once we have gained sufficient understanding of the term 'water' we do understand that in our present use any liquid whose chemical analysis shows it to be other than H<sub>2</sub>O is ruled out as not water, such as heavy water, D<sub>2</sub>O. Of course this conception may change. Recent quantum measurements of water molecules have indeed given rise to a much debated conception that in some rare cases water would, due to quantum entanglement, be in fact H<sub>1.5</sub>O (Schewe, Riordon, & Stein 2003). In the case such measurements are later vindicated, we are still left with a choice: we can treat water as a composite class like jade (including both substances jadeite and nephrite), or we can adopt two different classes for the different compositions of water. For example, we can call H<sub>2</sub>O 'water' and H<sub>1.5</sub>O 'schwwater'. Whichever the way we choose, once the choice is made, predicate attributions according to the adopted notion are

understand the meanings of the terms 'cat' and 'eukaryote', I do not need empirical corroboration to know the truth of the statement "Kitty the cat is a eukaryote."

A priori knowledge concerns conceptual principles that function as the most fundamental laws and commitments in our interrogating experience: "the most fundamental laws in any category – or those which we regard as most fundamental – are *a priori*" (Lewis 1923, p. 175). In order to think this way or that, one must adopt also the fundamental categorial commitments that are expected in that given way of thinking. One cannot be an IAU-certified astronomer without accepting the IAU definition of 'planet', any more than one can be a Christian Catholic without accepting transsubstantiation.

That all cats are animals, that water is H<sub>2</sub>O, that planets have cleared their orbits and that the bread turns to Christ's body are all a priori knowable truths respectively to the conceptual schemes in which they are applicable. This is the case because they are conceptual principles whose negation will not, in their respective conceptual schemes, be considered, no matter what. They are necessary because they draw the necessary preconditions in terms of which experience is interpreted in each respective conceptual scheme. That they are adopted in their respective conceptual schemes, in turn, reflects the fact that there is something in metaphysical reality that works to satisfy such conceptual principles. Adopting such a conceptual principle, in other words, *makes a difference* in a very fundamentally pragmatic sense.

While there is no necessity that we should, for example, lump cats and dogs into the class of animals, making such a classification works: there is something about the metaphysical reality of cats and dogs that brings it about that it makes sense to place them in a shared class, whereas there is something about the metaphysical reality of train engines and lamp posts that brings it about that it makes sense to exclude them from such a class. While nothing forces us to make such a classification, in the case we do, we shall discover that insofar as the present conceptual scheme holds, such a classification will hold also, come what may. The classification is necessary because its negation cannot be imagined: if something is not an animal, it is impossible for it to be a cat or a dog. And the classification is, *a fortiori*, metaphysically necessary, because whatever the attributes that cats and dogs share that warrant their inclusion in the class of animals are, these attributes are *metaphysically real* attributes of cats and dogs that we have come to experience. Finally, even if cats and dogs were suddenly to disappear for good, this classification would not cease to be an a priori knowable and metaphysically necessary truth. After all, "all dinosaurs are animals" is just as true now, as it was millions of years ago.

For everything that is thought of as real in a given conceptual scheme, there is something metaphysically real that allows such an interpretation. While the properties of an object cannot be exhaustively enumerated, whichever properties we attribute to it do have a basis in the metaphysical reality in the sense that it allows such attribution in the first place. And for each relation that is held a priori – a conceptual principle – that relation's applicability has its grounds in that it works in sorting out what is what in the metaphysical reality. If such a relation is necessary on the grounds of its role in a conceptual scheme,

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knowable a priori on the grounds of intensional analysis.

and this necessity is prompted by its applicability to the metaphysically real, it is metaphysically necessary in that scheme. Independently of how things actually hold, within this scheme, things will without exception be thus interpreted.

A priori knowable truths are metaphysically necessary in the sense that they hold regardless of how the world is configured. It should, however, be noted that this does not mean that a priori knowable truths would be true in all possible worlds in its most fundamental Leibnizian sense. Of course, there are possible worlds where a given conceptual scheme itself does not exist. For example, we can easily imagine a world where no such concepts as 'cat' or 'animal' exist.

A priori knowable truths are, however, true in all possible worlds in the sense that as soon as a given conceptual scheme *is* accepted, its a priori knowable truths hold regardless of what objects exist in the metaphysically real world and what do not. Regardless of whether there are ten cats in the world, or a million, whether there are dinosaurs or no dinosaurs, such a priori knowable truths as "cats are eukaryotes" and "dinosaurs are animals" are necessarily true. Their truth is metaphysically necessary owing to the pragmatic applicability of the concepts employed in the statements that is derived from the concepts' viability with respect to metaphysical reality.

A conceptual scheme forms the entirety of what is knowable a priori. In expressing a priori knowable statements we render explicit the structure of our conceptual scheme. The reason we commit to some conceptual principles rather than others is that they facilitate our needs and purposes in the world. Because they so do function, they also reflect aspectually the metaphysically real structure of the world. The motivation to commit to such principles as the law of the excluded middle, or the classification of cats and dogs as animals arises from the fact that such commitments are expedient with respect to our activities in the world. The fundamental criteria for committing to a given conceptual scheme are, therefore, pragmatic. What this means is the topic to which I will now turn.

### 3.3.4 The Pragmatic Grounds of A Priori Knowledge

While there is an element in experience that we cannot directly influence in what is given, we may guide our attention to what is given in experience in practically innumerable ways. We do not quite *construct* what we experience. But we pay attention to the relevant aspects of what is given to us, as guided by our conceptual principles, in order to facilitate action. (Lewis 1929, pp. 154-155.)

This gives rise to a multitude of mutually exclusive but individually viable ways of interpreting experience. Because there is such a multitude of ways of interpreting experience, experience ultimately involves a *choice*. Each conceptual scheme has always alternatives (*ibid.*, p. 232). While what is given to us is what it is, the choice of concepts and their application in terms of which we interpret experience rests ultimately with us. And this choice is, as is argued below, ultimately pragmatic. That is to say, the choice is driven by such criteria as comprehensiveness, simplicity and expediency. (Lewis 1926, p. 257.)

This element of choice is evident in how we employ geometries and logics. Both the Euclidean system and the Riemannian system are applicable and viable as geometries. Likewise, with each logic, the axioms and rules of inference being given, the theorems follow, regardless of what the world is like. The question of application of a geometry or a logic falls, however, outside of the system itself. While the structure of the system is independent of experience, and therefore knowable a priori, its application is ultimately an empirical question. (Lewis 1929, pp. 298–299.) We can also use whichever system we wish; but which system we choose to employ depends ultimately on what we need to do. Therefore the criterion for the choice of a geometry, an arithmetic or a logic is ultimately pragmatic: we choose to commit to that system that best supports our actual needs and desires. As Lewis points out: “I *may* categorize experience as I will; but what categorical distinctions will best serve my interests and objectify my own intelligence?” (ibid., p. 265.)

This element of choice extends to the entire conceptual scheme we commit to in order to make sense of the world. And as with conceptual systems of a narrower scope such as logics and geometries, the ultimate criterion of maintaining a commitment to a conceptual scheme is that of its supporting our pursuits in the world. Just as we choose to use a logic or a geometry when it works for our purposes, even the foundation of our entire conceptual scheme is based on what works. (Ibid., pp. 298–299.)

Lewis holds that the criterion for the commitment to a conceptual scheme cannot be its veridicality. The criteria of veridicality and reality arise from the conceptual principles of a conceptual scheme itself. (Ibid., p. 227.) What is true and what is real depends on how we interpret what is given in experience. Therefore the very definition of what is real and what is not is dependent on the criteria in terms of which we classify experience. Consequently, the truth of statements is dependent not only on what exists, but on how what exists is interpreted in terms of the conceptual scheme. To this end, veridicality and reality cannot function as the grounds for the choice of conceptual scheme. For each conceptual scheme, their own conceptual principles are *de jure* true:

The principles of categorial interpretation are a priori valid of all possible experience because such principles express the criteria of the veridical and the real. No experience could possibly invalidate them because any experience not in conformity, which might be evidence against them, is automatically thrown out of court as not veridical in that category, and hence not pertinent to them. (Lewis 1929, p. 227.)

The consistency of a conceptual scheme is not a sufficient criterion either, for similar reasons (Lewis 1929, p. 211). Logic forms the foundation of a conceptual scheme. And as Lewis points out, “what criteria could determine the validity of logic, since logic itself provides the criteria of validity used elsewhere, and the application of these to logic itself would be *petitio principii*?” (Lewis 1930, p. 6). There are various consistent ways of conceiving of the world. We cannot judge whether one or the other would be somehow better on the grounds of consistency. We may, for example, construe a conceptual scheme on the grounds of Łukasiewiczian three-valued logic just as well as on the grounds of classical binary logic: the “present calculus of propositions is only one among a



number of such systems, each of which may be self-consistent and a possible choice as an applied logic" (Lewis 1914, p. 247).

Neither veridicality nor consistency can, therefore, warrant our commitment to a particular conceptual scheme. The criterion of choice that we are left with is to choose on the grounds of what works for our purposes, and what does not. The criteria that determine our commitment to a particular set of a priori knowable conceptual principles are ultimately pragmatic: "In brief, while the a priori is dictated neither by what is presented in experience nor by any transcendent and eternal factor of human nature, it still answers to criteria of the general type which may be termed pragmatic" (Lewis 1929, p. 239). The pragmatic criteria that drive our choice of conceptual scheme are such criteria as comprehensiveness, simplicity and expediency:

Wherever such criteria as comprehensiveness and simplicity or serviceability for the control of nature, or conformity to human bent and human ways of acting play their part in the determination of such conceptual instruments, there is a pragmatic element in knowledge. (Lewis 1926, p. 257.)

As a pragmatic criterion for choosing a conceptual scheme, comprehensiveness means that a wider base of experiences can be explained and predicted in terms of it. Simplicity, in turn, means that the adopted scheme contains less redundant conceptual principles than a competing one. And finally, expediency means that the conceptual scheme adopted somehow forwards our pursuits better than another one. In other words, we are able to produce more desirable results in terms of it than in terms of a competing way of interpreting experience. If a conceptual principle would consistently produce results that were at odds with our purposes, we would eventually discard that principle.

The reason we are committed to Copernican astronomy rather than Ptolemaic astronomy is not that the former would be somehow more veridical or more consistent than the latter. As Lewis (1926, p. 256) notes, the decisive criterion that sets Copernican astronomy apart from Ptolemaic astronomy is not truth. The movements of heavenly bodies may be tracked just as well on axes centered on the Earth as they can be on axes centered on the Sun. We commit to Copernican astronomy because it is simpler and more comprehensive than the Ptolemaic one. We commit to Copernican astronomy, because it serves our purposes better.

Copernican astronomy is the simpler theory of the two: the orbits of the planets are depicted as neat concentric circles instead of complex epicycles. Because of its simplicity, its predictive power is greater: it is easier to calculate the positions of the planets because the mathematical model used to do so is simpler. The Copernican system is also more comprehensive: it can account for such planetary motions that could not be properly explained in terms of the Ptolemaic system. And because of its facilitating our astronomical purposes better than the Ptolemaic system, Copernican astronomy is the more expedient one as regards our astronomical pursuits. It *works* better as regards predicting the locations of the planets at a given time.

Experience can be interpreted in terms of a multitude of conceptual schemes, each of them good for some purposes and worse for others. That a person, a group of people or a culture chooses to entertain a given conceptual

scheme depends ultimately on the needs of the person, people or culture. That a person conceives of the world in terms of a mechanistic scientific worldview, a theistic or atheistic worldview, or as a wondrous place teeming with fairies, ghosts and spirits depends ultimately on whether the classifications contained in such conceptual schemes enables that person to function satisfactorily.

A priori knowledge concerns not some structurality or innate character of the world or even of experience, but only the conceptual principles we commit to in order to make sense of the world – in a nutshell, what we expect to experience. We expect that if something is a planet, it will have an orbit clear of other celestial bodies, that when two pairs are brought together, four items will be found, that if Jack is here, it is not the case that Jack is not here and so on and so forth.

If celestial bodies would be encountered in the orbit of a tentative planet, it would not be considered a planet. If two and two yielded three, we would immediately conclude that something had gone awry in our experimental setting – that a chemical reaction, for example, had annihilated one of our test items. And if Jack both were and were not there, we would no doubt precipitate to register ourselves at the nearest mental institution. This we do, because by so doing we believe we can live our lives more expediently – because it is the pragmatic thing to do.

### 3.3.5 Summary

A priori knowledge concerns exclusively conceptual principles. The entirety of a conceptual scheme constitutes the entirety of what is knowable a priori. This is because of two reasons: conceptual principles are embedded in practices we are, by convention, already committed to. These practices can be rendered explicit by the non-experiential activity of intensional analysis. Also, in order for conceptual principles to be useful, they must precede experience. Only once we have committed to some conceptual principles can we interpret experience on the grounds of them.

While conceptual principles are plastic in the sense that they evolve in the subjective and the social dimension, they are also in a peculiar way universal. They are, in effect, provisionally universal. This means that while the commitment to any given conceptual principle is ultimately volitional, once such a commitment has been made, the conceptual principle holds universally, come what may. A conceptual principle functions as a legislative principle on grounds of which we classify all experience. Therefore it holds universally for all imaginable experience.

Knowledge concerning conceptual principles also expresses metaphysically necessary truths. This is because in order for a conceptual principle to be viable, it must be of some use to us. And in order to be useful, a conceptual principle must express some such structurality that can be used to differentiate and classify experience. While the metaphysical reality allows an unlimited variety of different classifications, the fact that certain classifications function and others do not lends a metaphysical dimension to the knowledge concerning conceptual principles. Therefore knowledge that concerns

conceptual principles – a priori knowledge – is about metaphysically necessary truths.

Finally, which conceptual scheme we commit to is ultimately a matter of choice. The grounds for making such a choice cannot be veridical: the very conceptual principles employed in a conceptual scheme constitute the grounds of veridicality therein. Likewise, consistency cannot function as the criterion for committing to a conceptual scheme. There are various equally consistent conceptual schemes which one may commit to in order to render experience intelligible. Therefore, the commitment to a conceptual scheme rests on the criteria of what works for our purposes. The criteria of committing to a conceptual scheme are such as comprehensiveness, simplicity and expediency. Insofar as a conceptual scheme allows us to classify experience so as to facilitate reaching the goals and purposes we have in life, we commit to it. Therefore, the criteria for committing to a conceptual scheme are ultimately pragmatic.

A priori knowledge concerns the conceptual principles to which we commit on pragmatic grounds because they enable us to function expediently in the world. A priori knowledge may be justified by intensional analysis: by rendering explicit the relationships that obtain amongst the conceptual principles we have committed to. In so doing we render explicit such practices and commitments that have already, implicitly, been in place in the ways we employ language and interpret experience.

A priori knowledge concerns expectations, not observations. This is the case even while the conceptual principles that are the object of a priori knowledge first arise from observations. But once we have made the commitment to interpret experience in terms of a particular conceptual principle, come what may, that conceptual principle is from thereon out entirely independent of experience. The conceptual principle, when rendered explicit, expresses what we expect to find when turning to experience. And the reason we expect to find one thing rather than another is that having come to go about our business by such expectations, we have been able to produce desirable results expediently; that entertaining such expectations has proven to be the pragmatic thing to do. Therefore: the pragmatic a priori.

### 3.4 Possible Objections

Lewis' epistemology and semantics provide grounds for a compelling pragmatic account of a priori knowledge. While Lewis' philosophy produces a viable position on the nature of a priori knowledge, certain problems arise especially once the position is studied in the context of other epistemic and semantic theories. Many later philosophical discoveries can be used to raise criticism with respect to the Lewisian account.

In what follows, I will first examine Lewis' position against that of Rudolf Carnap's. Next, I will note some direct criticism against Lewis' position. Then I will note and respond to some of the most likely objections to the conception of pragmatic a priori knowledge presented above, and point out possible avenues of inquiry that might be pursued to dissolve them.

#### 3.4.1 Lewis, Carnap and the Pragmatic A Priori

The position of framework-dependent analyticity, and consequently a priori knowledge, has been customarily attributed to Rudolf Carnap especially in the mainstream literature of analytic philosophy. Lewis, as shall be seen below, has been mostly ignored in the contemporary a priori discussion. While there are certainly many aspects that Lewis' and Carnap's positions share, it may be argued that Lewis' stronger commitment to pragmatism lends, however, his position some advantages.

Like Lewis', Carnap's position on a priori knowledge relies on the coextensivity of analytic truths and a priori knowledge. What can be known a priori are such truths that hold always within a given linguistic framework. Here Carnap sides with other logical positivists, who held that analytic truth arises from understanding the meanings of the terms used to express a statement.

More specifically, according to Carnap, analytic truths are such that are logically true. Contradictory statements are such that are logically false. Every other statement is synthetic. (Carnap 1936, p. 432.) Later, in *Meaning and Necessity*, he introduced the notion of L-truth – truth that depends on semantic rules. In this framework, analytic statements are L-determined: a statement that is L-true, i.e. analytic, holds in every state-description. (Carnap 1956a, p. 10.) Thus, for Carnap, analytic truths coincide with necessary truths, and their knowledge can be arrived at a priori. Synthetic statements can only be known a posteriori, since they are not logically determined.

While Carnap's notions of analyticity coincide very strongly with other positivist thinkers, he, however, introduced novel ideas not unlike those of Lewis'. In particular, Carnap defended a framework-dependent notion of analyticity, which can be construed quite similarly to Lewis' notion of pragmatic a priori knowledge.

Carnap had introduced his famous principle of tolerance in his seminal 1934 work *The Logical Syntax of Language*. Almost echoing Lewis' notions from his 1923 paper, Carnap argues that there is no one single logic. Rather, various different logical frameworks should be allowed:

In logic, there are no morals. Everyone is at liberty to build up his own logic, i.e. his own form of language, as he wishes. All that is required of him is that, if he wishes to discuss it, he must state his methods clearly, and give syntactical rules instead of philosophical arguments. (Carnap 2002, p. 52.)

Later on, Carnap developed this idea further. In his 1950 paper, "Empiricism, Semantics and Ontology," Carnap argued that the choice of logical, or linguistic framework is driven by such criteria as efficiency, fruitfulness and simplicity (Carnap 1956b, p. 208). To warrant this position, Carnap introduced a novel division to drive the notion of framework-reflexivity, that is to say the division into internal and external questions: questions that can be addressed within a given linguistic framework, and questions that concern the framework as a whole, respectively (ibid., p. 206.)

According to Carnap, internal questions are such that can be addressed once a linguistic framework has been accepted. For example, in what he calls the 'thing language', i.e. language that can express the existence of things, we can answer such questions as "is there a white piece of paper on my desk?" and "did King Arthur actually live?" In another language, the 'number language', we can, in turn, answer such questions as "is there a prime number greater than a hundred?" and "do numbers, in general, exist?" (ibid., pp. 207-208.) From these, Carnap sets apart questions that are external to the framework, such as the question of the reality of the thing world itself. These questions also concern the question as to which framework it is that is the most expedient to choose. (Ibid., p. 207.)

The received interpretation of Carnap's position is that this dual distinction falls roughly together with the division into empirical and theoretical questions (Bird 2003, p. 97) or is redundant with respect to the classical division of analytic and synthetic truths (Quine 1966b, p. 133.) It is important to note, however, that Carnap's distinction is far more elaborate than a simple division into empirical and non-empirical questions. As Bird (2003, p. 97) notes, Carnap's position is, in fact, four-fold: it concerns internal particular and internal general questions, and external practical and external theoretical questions.

Internal particular questions are such as "is there a table in the dining room?" Internal general questions, in turn, are such as "do physical objects exist?" (with respect to the chosen framework). The first kind of internal question is resolvable in terms of the vocabulary, rules and test procedures of a given language (ibid., p. 98). The second can be, however, answered based on the first kinds of questions. If there is a table in the dining room, then on the grounds of tables' being physical objects, physical objects exist. In other words, answers to internal general questions follow logically from answers to internal particular questions. (Ibid.)

There, however, remain those questions that cannot be answered within a given framework: the question of which framework to adopt in the first place, and the question of the actual metaphysical existence of the particulars that are denoted in the framework. The first type of questions are external practical questions: they are such questions that are involved in choosing a linguistic framework, and as was noted above, concern such criteria as efficiency, fruitfulness and simplicity. (Carnap, 1956b, p. 208). The second type of

questions are external theoretical questions. They concern the question of what things there are independently of a linguistic framework: it is the question of their real, independent existence. These kinds of questions Carnap, in true logical positivistic manner, holds to be nonsensical:

To accept the thing world means nothing more than to accept a certain form of language, in other words, to accept rules for forming statements and for testing, accepting, or rejecting them. The acceptance of the thing language leads, on the basis of observations made, also to the acceptance, belief and assertion of certain statements. But the thesis of the reality of the thing world cannot be among these statements, because it cannot be formulated in the thing language or, it seems, in any other theoretical language. (Carnap 1956b, p. 208.)

This, however, is not the whole extent of Carnap's distinctions. As we can see now, the question of internal and external questions is far more complicated than a simple empirical / theoretical, or synthetic / analytic cut. Furthermore, Carnap still employs his division to analytic and synthetic truths. This division concerns, however, only internal questions. As Bird (Bird, 2003, p. 108) notes, "Carnap in 'ESO' uses the analytic/synthetic distinction primarily to draw a contrast between two kinds of language, that is, the formal, logical, languages, such as the number language in mathematics, and the empirical languages, such as the thing language."

For logical or formal languages, such as the number language, internal questions are analytic and logically true. As Carnap writes: "the answers are found, not by empirical investigation based on observations, but by logical analysis, based on the rules for the new expressions" (Carnap, 1956b, p. 209). For the thing language, the answers to its internal questions will depend on empirical investigation, and cannot be resolved simply by analysis. The analytic / synthetic cut is, therefore drawn here precisely in the same way as in his previous works: analytic truths arise from semantic rules, and synthetic truths from observation.

Now we have a taxonomy of six different kinds of questions:

- 1) Internal particular empirical questions: synthetic truths.
- 2) Internal particular formal questions: analytic truths.
- 3) Internal general empirical questions: synthetic categorial truths.
- 4) Internal general formal questions: analytic categorial truths.
- 5) External practical questions: questions of adopting frameworks.
- 6) External theoretical questions: framework-independent existence questions.

The first four elaborate further the division between analytic and synthetic truths: both analytic and synthetic truths can concern either particulars or general categories. Questions concerning tables and chairs, or the properties of numbers and propositions are internal particular questions. The answers to the former are synthetic truths. The answers to the latter are analytic truths. Questions concerning whether there are such things as tables and chairs, or numbers or propositions, are internal general questions. The answers to the former are synthetic truths that concern the existence of a given category of

objects such as tables and chairs. The answers to the latter are analytic truths that concern, likewise, the existence of a given category of objects such as numbers and propositions. None of these questions can be answered independently of a linguistic framework: synthetic questions require a thing language in which they can be addressed. Analytic questions require a number language or a logical framework in which they can be addressed.

There, remain, however, two types of questions that fall outside the scope of any given language. Out of these questions, Carnap holds that the last kind, the external theoretical questions, are unintelligible: “unless and until [philosophers] supply a clear cognitive interpretation, we are justified in our suspicion that their question is a pseudo-question” (Carnap 1956b, p. 209.) It does not make any sense to try to answer these external existential claims, since any answers to them should be given in terms of some vocabulary, rules and test procedures of a language: in other words, a linguistic framework.

The external practical questions are, however, resolvable. And it is these questions where Carnap’s pragmatism lies. Here, the question is whether we should accept or adopt a given language, such as the thing language or the number language. And while these questions arise outside of the language, they are perfectly respectable in that they can be resolved by assessing the benefits of acceptance and the disadvantages of non-acceptance. In asking whether we should commit to a given language, the question is ultimately pragmatic: whether that language is more efficient, fruitful or simple for our purposes than some other.

In comparison to Lewis, the similarities are striking. Also for Lewis, the resolution of both analytic and synthetic truths depends on the framework, or conceptual scheme. While Lewis does not strike a distinct division between particular and general truths, also for him both theoretical and empirical questions are questions that are in some respect conceptual. Analytic truths are such that can be resolved by the analysis of conceptual principles. Synthetic truths, in turn, require further empirical corroboration.<sup>99</sup>

Like Carnap, the matter of external questions is critical also to Lewis. The choice of linguistic framework, or conceptual scheme cannot arise from the framework or scheme itself. It must, therefore, depend on criteria somehow external to the framework or scheme: criteria that, as was argued above in ch. 3.3.4 are ultimately pragmatic. While Carnap does not directly cite Lewis here, he had been in direct contact with Lewis, and must have been aware of Lewis’ notion of the pragmatic a priori. Lewis can certainly claim precedence here as what comes to the idea of framework-dependent analyticity and a priority.

Precedence of ideas does not, however, necessarily translate to their strength. In Carnap’s favor must be counted the great deal of rigidity allowed to it by restricting the discussion to language. Carnap also employed such powerful tools of the analytic tradition as the distinction between object language and meta-language. (See e.g. Carnap 1956, p. 4.) Also his clean distinction between semantics, pragmatics and epistemology must have appealed to analytic philosophers. Compared to Carnap’s rigorous conceptual distinctions, Lewis’ pragmatic position must have seemed too fuzzy to many, what with its infinite intensional definitions and references to operational sense

<sup>99</sup> Cf. ch. 3.1.4 above.

meanings. (See above, ch. 3.1.1 & 3.1.2.) Also, a strict differentiation of semantics, pragmatics and epistemology was, of course, out of the question to Lewis, owing to his commitment to pragmatism. (See above, ch. 3.1.5 & 3.2.1.) Carnap also enjoyed the strong support of other logical positivists, and to this end has arguably had more fruitful grounds to build his position, which explains a great deal of Carnap's greater later prominence. Lewis' position has, however, some significant advantages over Carnap's.

First of all, Carnap's position relied at the end of the day on a very traditional cut between analytic and synthetic truths. To this end, his thinking is directly polarized with respect to GWQ. For those who do not subscribe to GWQ's arguments this poses no problem. But for those who do, Carnap's position encounters the same problem as that of many other notable GWQ-criticisms: namely, it will ultimately boil down to amplifying and elaborating such notions as the analytic-synthetic cut and semantic rules that were shown arguably by GWQ to be at least very suspect notions. Therefore, in terms of GWQ, a strong commitment to Carnap will simply lead to a division of lines where the ultimate question will simply be the choice of sides. This, of course, has been done in abundance in the recent decades, although the consensus appears to be that GWQ ended up as the winning position. (See e.g. O'Grady 1999, p. 1015.) In terms of Lewis' more lenient definitions, a GWQ-compatible position can, however, be constructed, as was argued above.

Secondly, Carnap's heavy reliance on language is quite unacceptable from a pragmatic point of view. As was argued above in chapter 3.1.2, defining meaning solely in terms of language leads to a dictionary regress. Meaning cannot be reduced to simply linguistic conventions and rules. Meaning must also pertain to our practices. This is, indeed, the major point Lewis raised already in his 1941 comparison of pragmatism and positivism. In response to Carnap's "Testability and Meaning" Lewis writes:

However unlikely it may be, it is theoretically possible that a person should know completely the formation rules and transformation rules of a language – the syntax of it and all synonyms in the dictionary of it – and yet be completely ignorant of the empirical signification of any term or sentence in that language. Such empirical meaning consists precisely in what Carnap here excludes, the associated imagery or the criterion in terms of sense by which what is meant is recognized when presented in experience. Words and sentences without such associated imagery are marks or noises without significance. (Lewis 1941, p. 96.)

Where positivists, Carnap included, emphasize language and logic, to the pragmatists practices and action are primary. Without reference to sense and action, language and linguistic rules boil down to meaningless syntactic relationships. Meaning must be ultimately rooted in our practices.

Thirdly, and most importantly, it must be noted that Carnap does not offer a very detailed account of how we go about answering the external practical questions. As O'Grady (1999, p. 1027) points out, he "never spelled out what was involved in the kind of practical judgment required for a choice of framework." The criteria that Carnap offers in passing in "Empiricism, Semantics and Ontology" – fruitfulness, efficiency and simplicity – directly reflect Lewis' pragmatic criteria of comprehensiveness, simplicity and



serviceability in the control of nature put forth already in 1926 (Lewis 1926, p. 257.) Furthermore, Lewis has the entire arsenal of argumentation of MWO, AKV and the papers cited in this work to further elaborate what a pragmatic commitment to a conceptual scheme or linguistic framework means and how our practices affect our conceptual schemes. While Carnap has been held as the primary advocate of the pragmatic a priori by many, he certainly offers very little argumentation to support the *pragmaticity* of it.

While Carnap did provide a similar position to that of Lewis', and while that position caught on far better than Lewis', it is untenable from both the point of view of GWQ, as well as the pragmatist point of view. Carnap's position presents a framework-dependent notion of analyticity and consequently apriority in the Leibnizian-Fregean line of philosophy: the notions are ultimately linguistic. Lewis' position, in turn, reflects the pragmatic a priori in the Kantian-Jamesian line of philosophy: analyticity and apriority are pragmatic notions that pertain to our practices of making sense of the world. The debate between these two philosophical traditions can hardly be settled here. Suffice to say, the argumentation in the present work will hopefully lend some further support to the viability of the Lewisian position.

### 3.4.2 Direct Criticism of Lewis' Conception of A Priori Knowledge

There have been scarce few direct criticisms written on Lewis' position on a priori knowledge. Most notable is the almost complete absence of Lewis from the contemporary a priori discussion. For example, the seminal contemporary works on a priori knowledge, Casullo's *A Priori Knowledge* (Casullo 1999) and *A Priori Justification* (Casullo 2003) make no mention of Lewis at all. This is the case also with the entries on a priori knowledge in *The Blackwell Guide to Epistemology* (Bealer 1999b), *The Oxford Handbook of Epistemology* (Casullo 2002), *The Oxford Handbook of Contemporary Philosophy* (Peacocke 2005), *Stanford Encyclopedia of Philosophy* (Russell 2007) and *Epistemology: An Anthology* (Casullo 2008 & Bealer 2008). In another important round-up of the a priori discussion, Boghossian's and Peacocke's *New Essays on the A Priori* (Boghossian & Peacocke 2000), Lewis is mentioned only in passing.

Finally, while Laurence Bonjour's paper, "In Defense of the A Priori" (Bonjour 2005) in *Contemporary Debates in Epistemology* makes no direct mention of Lewis, he does raise an argument against what he calls the moderate empiricist view. He has elsewhere argued that Lewis was the main proponent of this view (Bonjour 1998, p. 38 ff.). Indeed, practically the only notable critical analysis of Lewis' conception of a priori knowledge in the contemporary discussion is the critique by Bonjour in his *In Defense of Pure Reason* (1998). This criticism will be addressed below.

In addition to the prominence of Carnap in regards to framework-reflexive notion of analyticity, there are at least three reasons for the absence of Lewis' position in the a priori discussion. First of all, and most notably, Lewis' theory had only started to take off when it hit the brick wall of GWQ. As was seen above, Lewis was strongly committed to both the analytic-synthetic cut as well as the coincidence of analytic truths and a priori knowledge. Lewis operated, however, in the very same philosophical space that was soon occupied by

Goodman, White and Quine both intellectually and geographically. His philosophy was a part of the Harvard pragmatic continuum, and with the onslaught of GWQ, it seemed that his position, with its heavy reliance on analyticity, was no longer interesting enough to warrant further study.

In his critical paper on Lewis' philosophy, Joel Isaac (2006) argues that Lewis' philosophy fails entirely in light of GWQ. Lewis did voice his concerns regarding the viability of the analytic-synthetic distinction: "the whole body of my philosophic conceptions [...] depends on the validity of this distinction; and if that plank is pulled out from under me, the whole structure will come tumbling down" (Lewis 1968b, p. 659). Murphey (2006, p. 72), however, notes that the concerns Lewis voiced here target the trend evident in Quine and others towards extensionalism; for Lewis, the notion of analyticity depended on intensional relationships, and was thus safe-guarded against Quine's attack. Furthermore, when analysis is construed as pragmatic heuristic activity, as was argued above in chapter 2.3, Lewis' analytic framework can be reinstated, thus offering an avenue of inquiry to vindicate Lewis' position with respect to GWQ.

The second reason is that Lewis' philosophy was loaded with notions that are much easier and much more lucrative to criticize. Many of the most notable critics of Lewis latched on his notion of the given, ignoring his position on a priori knowledge. The given element in Lewis' philosophy has been criticized by many philosophers, for example Tomas (1951), Firth (1968), Haack (1993), BonJour (2004), and most notably by Sellars (1963).

The third reason is that it appears that those few critics that have taken their time to address Lewis' a priori directly seem to have not considered properly the more radical notions in Lewis' position arising from his pragmatic commitments. Assessments by pragmatist reviewers, such as Rosenthal (1976) and Murphey (2005) have, in general, been favorable to Lewis. Philosophers committed to more positivistic or rationalistic positions, however, such as Collins (1948), Ducasse (1948) or BonJour (1998), have arguably failed to construe properly Lewis' repositioning of the notion of a priori knowledge as knowledge that targets our conceptual commitments.<sup>100</sup> In particular, the dynamic nature of concepts and the pragmatic nature of the choice of conceptual schemes appears to have been given little or no scrutiny at all by Lewis' critics.<sup>101</sup>

<sup>100</sup> Collins attempts to do away with Lewis' conception of the a priori by questioning the way Lewis has struck the division of analytic and empirical truths. Ducasse, in turn, studies Lewis' conception of meaning from a heavily extensional point of view which, as was argued above, is not compatible with Lewis' semantics to begin with. BonJour lumps Lewis together with logical positivists such as Ayer, thus ignoring his pragmatist heritage.

<sup>101</sup> Lewis' conception of the a priori is also addressed, albeit superficially, in several of the reviews of his epistemological monographs, in particular in the reviews given by Schiller (1930), Baylis (1930), Cunningham (1930) and Miller (1931) for *Mind and the World Order* and Baylis (1947), Henle (1948), Stace (1948), Robson (1948) and Hempel (1948) for *An Analysis of Knowledge and Valuation*. Many of the reviews are rather favorable to Lewis, and almost all acknowledge the value of Lewis' systematic analyses. Out of the more critical ones, it may be argued that Miller does not quite grasp the details of Lewis' system, treating it as a kind of a correspondence theory, which is, of course, out of the question for Lewis, owing to his commitment to pragmatism (see also Murphey 2005, p. 171). Schiller's analysis raises issues concerning Lewis' logical foundations, but ends in

Asher Moore (1968) offers one of the few thorough critical analyses of Lewis' notion of the a priori. Moore addresses several features of Lewis' position. He begins with distinguishing the content of and evidence for a priori knowledge. He then studies Lewis' notion of analyticity in detail. Moore also presents critique of Lewis' notion of intensional meaning, ending his paper with an emphatic dissent with Lewis' position. It may, however, be argued, that Moore's critique is somewhat superficial, and ignores in particular the more innovative features of Lewis' theory.

Moore first distinguishes between the questions of the content of a priori knowledge and the evidence for a priori knowledge. The content of a priori knowledge concerns those truths that are knowable a priori. The evidence of a priori knowledge concerns how we can come to know those truths a priori. (Moore 1968, pp. 156–157.) Moore argues correctly that Lewis' position is that the evidence for an a priori proposition consists in introspectively understanding the relationship between ideas (*ibid.*, p. 158). This position is in Moore's views warranted in particular owing to the long Berkeleyan–Kantian–Absolute Idealistic–Pragmatic tradition leading to it (*ibid.*, p. 167).

Moore then turns to scrutinize the notion of analyticity in greater detail. He enumerates four answers to the question of what analytic statements are:

- 1) The realist answer, that analytic statements are about realities;
- 2) The conceptualist answer that they are about ideas;
- 3) The nominalist answer that they are about language; and
- 4) The positivist answer that they are semantically void and therefore not about anything. (Moore 1968, p. 168.)

Here Moore argues that Lewis oscillates between the positions 2) and 4), and that he should rather commit to strict conceptualism. He argues that those Lewis' statements that support the interpretation of Lewis as belonging to the class 4) should be discounted. (Moore 1968, p. 168.) This is, however, a mistake on Moore's part. Lewis is not a pure conceptualist. His position on analyticity does, indeed, incorporate elements of 4).

Here is a typical pivotal point where the consequences of Lewis' repositioning of a priori knowledge become evident. He is a conceptualist in the sense that a priori knowledge concerns ideas, or concepts. But he also shares the positivistic notion that a priori knowledge, and more particularly, analytic truths that are knowable a priori, are semantically void. Lewis says, "in one sense all analytic statements 'say the same thing' and 'say nothing', in another sense (that of their analytic meaning) they say different things, and what they say is significantly factual." (Lewis 1946, p. 87.)

The intension of an analytic statement is zero: it applies to everything thinkable. This is, however, the case only of the analytic statement as a whole, or as Lewis puts it, *holophrastically*. (*Ibid.*) According to Lewis, the meaning of a statement can be construed in two ways. First is the meaning of the statement as a whole. This is the holophrastic meaning of the statement. The second is the

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conciliatory tones. Stace, in turn, acknowledges his bafflement in the face of Lewis' systematizations, and admits that he may simply not understand the theses presented in the AKV.

meaning of the statement as analyzed into its constituents. This is the analytic meaning of the statement. As was argued above, in chapter 3.1.3, the analyticity of a statement arises from the intensions of its constituents and its syntactic structure. If a statement is such that the intensions of its constituents and its syntactic structure yield a statement that is true of everything thinkable, it is analytic, and therefore intensionally void.

However, the constituents of such a statement – its analytic meaning – do not have zero or universal intension. While “all bachelors are unmarried” and “all cats are animals” have zero intension holophrastically, it is obvious that the intension of ‘bachelor’ and the intension of ‘cat’ differ from one another. The reason the holophrastic intension of the statements is void is that the predicate ‘unmarried’ is intensionally contained in the term ‘bachelor’, and the predicate ‘animal’ in the term ‘cat’. Both statements apply to everything thinkable. But their constituents differ intensionally, and therefore denote different objects in different circumstances.

When construed in terms of analytic meaning, Lewis’ position is that a priori knowledge concerns concepts, such as ‘cat’ or ‘bachelor’. When construed in terms of holophrastic meaning, Lewis’ position is that a priori knowledge concerns statements that are intensionally void and denote every possible world and therefore make no factual claims as to how the world should be configured. There is no particular way the world must be in order for “all cats are animals” to be true. The classification would be true even if no cats existed. Therefore, one should by no means strike out the statements where Lewis defends 4). By repositioning his notion of a priori knowledge, Lewis incorporates and integrates elements from both 2) and 4) into a position that could be characterized as the fifth answer to the notion of analyticity:

- 5) The pragmatic answer that analytic statements are about such relationships of concepts that are legislative to our classification of experience.

Moore then turns to analyze Lewis’ notion of intensional meaning. He argues strongly against Lewis’ idea of intensional meaning on the grounds that there can be no such ideas that were implicit, or non-conscious (Moore 1968, p. 190). Moore argues that “in the end I just cannot swallow the notion that my ideas may have parts of which I am unconscious” (ibid., p. 194). This is reminiscent also of White’s (1950) notion of the vagueness of those passages where Lewis appeals to imagination.

Addressing this notion would require entering into a long and convoluted discussion concerning the nature of the human mind. For its slightly tangential nature to the present endeavor, this discussion will be omitted here. Suffice to say, while Lewis’ application to imagination and implicit ideas is criticizable in this manner, it does also offer us a powerful account of analytic truth and the relationship of analyticity and apriority, as was argued above in chapter 3.1. Owing to the value of this contribution, application to imagination and implicit ideas should not be discarded simply because these notions warrant further study and clarification.

While Moore's analysis does raise interesting questions concerning Lewis' position, its biggest problem is that instead of studying Lewis' theory as a whole, Moore has simply chosen individual notions entertained by Lewis and contrasted them with positions of Hume, Berkeley and Kant, without regard for the way Lewis has developed and repositioned these positions. As Lewis noted in his reply to Moore's criticism, "Moore does not concern himself with my foundations, but with certain items of the structure I have built on them." (Lewis 1968b, p. 660).

While there are not many direct criticisms of Lewis' position on a priori knowledge, critical accounts can be constructed both with respect to the contemporary a priori discussion, as well as by observing the central aspects of Lewis' theory in the light of more recent philosophical findings. I shall now turn to these critical positions for the remainder of the present chapter.

### 3.4.3 Counter-arguments from Epistemic Positions

To follow Casullo's (2003) taxonomy presented in the introduction, the Lewisian position falls under the category of non-epistemic positions. A priori knowledge is justified by intensional analysis, which is a type of semantic analysis. Consequently, a priori knowledge is expressed in exclusively analytic statements: statements whose truth may be settled solely in terms of analysis. Therefore, analyticity and apriority coincide for pragmatic a priori knowledge.

Owing to the non-epistemic nature of Lewis' position, it is vulnerable to critique from such epistemic positions that apply to a particular epistemic source of a priori justification, such as rational insight or intuition, as well as epistemic positions drawing from a strength or a defeasibility condition. While it was pointed out in chapter 1.1.1 that the Cartesian epistemic position encounters problems with its assumption of infallibility, fallibilistic epistemic apriorism can still present a credible case for a priori knowledge. It is in particular such advocates of fallibilistic epistemic apriorism as Laurence Bonjour (1985, 1998) and George Bealer (1998, 1999a, 1999b) that could raise an objection on the grounds of the source of a priori justification.

Above, it was argued that a priori knowledge receives its justification from semantic analysis performed in a consistent analytic framework. It was suggested that one very powerful framework for such purposes is presented in Lewis' intensional semantics. An epistemic apriorist might raise at least three different critiques here. First, the epistemist could argue, as Bonjour (1998, p. 38 ff.) does, that in fact a position relying on the process of analysis still requires as an ultimate justification something akin to rational insight. Secondly, the epistemist might argue that while intensional analysis is, on the grounds of (AP) a sufficient condition for a priori knowledge, it is not a necessary one. Of course, there might be other ways of satisfactorily justifying knowledge non-experientially, such as rational insight. And thirdly, she might argue that the position presented here does not take issues of defeasibility sufficiently well into account.

As what comes to the first argument, it could be argued that while we may arrive at logical truths by analysis, the justification of logic itself requires rational insight. Bonjour points out:

merely listing the elements that would have to be grasped in order to understand the proposition provides no insight into *how* the proposition is known on the basis of those elements. Lewis seems to be saying merely that once those elements are understood, one can just see or grasp intuitively that the relation [in the AAA syllogism] is transitive, a view that is, of course, entirely indiscernible from that of the rationalist. (BonJour 1998, p. 39.)

It appears that the justification of logical truth can only rely on intuition. However, as was argued above, in chapter 3.1.4, also logical truth can be shown to arise from the relationships of the sense meanings of logical constants and connectives, and the syntactic structure of the logical proposition. Once we come to understand the application of the constants and connectives by intensional analysis, we may resolve the truth of a logical proposition without needing to recourse to rational insight.

BonJour might object to this argument, owing to his construal of Lewis' conception of sense meaning. He argues that sense meaning, as an "experiment in imagination" offers no sufficient grounds for many cases of a priori knowledge (BonJour 1998, p. 48). BonJour, however, fails to construe sense meaning as anticipatory to experience in the sense specified above in chapters 3.1.2 and 3.2.3 ff. Once concepts are construed as anticipatory schemata, and a priori knowledge construed as knowledge concerning concepts and their relationships, it may be argued that even logical propositions can be analyzed in terms of such schemata, as was argued in chapter 3.1.4. Therefore, intensional analysis functions as a sufficient justifier of a priori knowledge.

While intensional analysis may be a sufficient justifier for a priori knowledge, it is, however, by no means a necessary one. There may be other a priori justifiers, such as rational insight or intuition. This argument, while sound, may be criticized on the grounds of the haziness of the concept of intuition itself. Granted, other ways to justify a priori knowledge may exist in addition to intensional analysis. But the determination of what exactly qualifies as intuition is a very difficult endeavor. Despite in-depth scrutiny by e.g. Bealer (1999a), the notion of 'intuition' is arguably far from systematically determined. Whether or not intuition qualifies as an independent faculty that may provide a priori justification, it could thus be argued that a more systematic and explicit account of this faculty is needed.

It could also be argued that the notion of intuition can be elucidated by introducing Lewisian concepts. It can be argued that intuitive inference is, in fact, based on the implicit sense meanings employed by a person. Understanding, for example, intuitively the apriority of a mathematical proof would require the possession of the mathematical concepts utilized, that is to say the possession of the implicit sense meanings of the mathematical terms employed. The intuitive understanding of apriority would, therefore, be based on the implicit understanding of the intensional relationships that obtain between the terms employed.

The third possible objection concerns defeasibility. Since conceptual schemes are subject to evolution, it seems that a priori knowledge is defeasible, even by experience. Owing to the fallibilistic nature of Lewis' position, defeaters of a priori knowledge must be allowed. There are, however, at least two promising avenues of inquiry one might pursue with respect to defeaters in

the context of the present position. First of all, intensional analysis lends a very strong degree of justification to a belief. If we can show by analysis that the truth of a statement depends solely on our commitment to the meanings of the terms used in it, such an analysis is in itself a very strong justifier for the belief expressed in such a statement. Any defeater of a belief thus justified should be of an equal or greater strength.

The second avenue of inquiry would require a repositioning of the notion of defeasibility. This position draws its strength from the notion of provisional universality of a priori knowledge defended above: the notion that a priori knowledge is indefeasible with respect to the conceptual scheme in which it holds. Once an intensional analysis justifies a belief, we know the truth of that belief no matter what, insofar as we keep to the conceptual scheme in which that belief holds true.

However, as was argued in chapters 3.1.5., 3.2.5, 3.3.2 and 3.3.4, recalcitrant experience presents us always with a choice of conceptual principles. Therefore, experience may function as a defeater of a priori knowledge in case it causes us to relinquish a conceptual principle in favor of another. This type of defeasibility does not, however, affect a priori knowledge in the more traditional epistemological sense: it is not the justification of the belief in question that is defeated. Rather, a strong defeater could function as an instigator of a change of conceptual schemes. An a priori justified belief could be defeated because the conceptual principles that it targeted would no longer be considered applicable. However, the old item of a priori knowledge would still hold reflexively to the abandoned conceptual scheme. A belief that was justified in terms of the old conceptual scheme is still justified in terms of it.

#### 3.4.4 Non-epistemic Positions

In Casullo's taxonomy, Lewis' position belongs with the non-epistemic positions. It belongs more particularly with such positions that argue in favor of the coextensivity of analyticity, necessity and apriority. The coextensivity of analyticity and apriority would certainly receive criticism from Kantian apriorists. A Kantian philosopher would object to the dismissal of the synthetic a priori.

A Kantian apriorist could argue that there are fundamental differences between classically analytic statements, such as "all bachelors are unmarried" and such allegedly synthetic a priori statements as "a patch cannot be red and green all over," as well as the truths of mathematics. The Kantian would argue that the latter are not merely explicative, but rather augment synthetically our knowledge. (Kant 1998, p. B10 ff.) *Prima facie* such an argument seems, indeed, credible. After all, it does appear to be the case that Perelman's proof of the Poincaré conjecture, for example, has not just explicated something, but augmented what we now know about mathematics as well.

Within the scope of Lewis' intensional semantics, it can, however, be demonstrated, as was done in chapter 3.1.6, that such allegedly synthetic a priori statements as "a patch cannot be red and green all over" are knowable a priori precisely because of the intensional structure of 'red' and 'green'. Therefore such statements are actually analytic and explicative as construed in

terms of intensional semantics. As concerns mathematics, it can be argued that the truths of mathematics can be shown to consist of similar intensional containment relations as other more clearly analytic a priori knowable truths.

With Lewis' concept of the sense meaning, the intensional relationships at even the most fundamental conceptual level can be rendered explicit by conceptual analysis. Within the scope of the intensional framework introduced above, it may be therefore argued that the truths of mathematics are analytic in the sense that their truth can be determined in terms of intensional analysis. Their apparent synthetic nature, in turn, arises from the fact that many a priori knowable relations of conceptual principles are so deeply embedded in our practices that their explication is a tremendously difficult task, as was argued in chapter 3.3.1.

It should, however, be noted that in order to steer clear from GWQ, we must allow the existence of several analytic frameworks within which semantic and conceptual analysis may be expediently carried out. Lewis' intensional semantics is simply one of many possible viable ones. The Kantian position involves ultimately a quite different analytic framework than that of Lewis'. To this end, the Kantian position cannot be overturned within the scope of the present work. At best, it can be argued that synthetic a priori knowledge fails within the scope of Lewis' intensional framework, whereas it remains essential to the scope of Kant's transcendental framework.<sup>102</sup> To make headway with this question, a detailed comparison of the benefits and drawbacks of the Kantian and Lewisian analytic frameworks would be in order. To this end, it should be noted that Lewis' framework does have some advantages compared to the Kantian one. Firstly, Lewis' intensional semantics provides a lucid account of predicate containment. Secondly, Lewis' position does not assume the infallibility of the categories of the interpretation of experience, which is a problematic notion as was argued in chapter 1.1.3.

It may also be argued that Lewis' theory contains traces of the Fregean idea that mathematical truths could be reduced to logical truths.<sup>103</sup> The present position may therefore be vulnerable to some of the criticism leveled against logicism.<sup>104</sup> Lewis' position does not, however, entail the reduction of mathematical truths to logical truths. In Lewis' framework, logical truths are more fundamental than mathematical truths: the principles of logic apply to mathematics, but not vice versa. Therefore, mathematics cannot be reduced to logic: mathematics is intensionally subject to logic. In terms of anticipatory schemata, mathematical truths can be construed to concern operations on units, and ultimately schematic iterations. Logical truths, in turn, can be construed to

<sup>102</sup> Sellars (1956), for example, argues that if we adhere to Lewis' interpretations of 'a priori' and 'synthetic', synthetic a priori knowledge is a logical impossibility.

<sup>103</sup> See Frege (1950).

<sup>104</sup> It has, for example, often been argued that Gödel's incompleteness theorems can be used to demonstrate the implausibility of logicism (Gödel 1931). Gödel demonstrated that in a consistent formal system, not all theorems are derivable. It can be argued that Gödel's first incompleteness theorem shows that the theorems of elementary arithmetic cannot be derived in any formal logical system. In other words, there will always be statements about natural numbers that are true but that cannot be proven in the system. (See e.g. Hellman 1981.)



concern operations on concepts themselves, iterations included, as was shown in chapter 3.1.4.

What the exact intensional relationships between the truths of mathematics and the truths of logic are, remains an open question and therefore open to criticism. Addressing the questions concerning the nature of logic and mathematics and their relationships is, however, a gigantic philosophical endeavor, which cannot be pursued within the scope of the present work. Whether the philosophy of mathematics can benefit from intensional analysis would demand further research on these topics.

### 3.4.5 Post-linguistic-turn Positions

Issues raised by post-linguistic-turn philosophers such as the later Ludwig Wittgenstein pose serious problems to Lewis' position. In Lewis' position concepts, while changing through time and personal evolution, are still attributed a Platonic nature that is unacceptable to a post-linguistic-turn philosopher.

For Lewis, as for the great majority of philosophers preceding him, meanings are fixed. Lewis writes, for example, as follows:

We may, thus, entertain and utilize certain meanings or we may disregard them. Most of the precise meanings which could be thought of, never will be thought of or expressed just as the finite numbers which no one will ever make use of exceed those which will be used in counting. (Lewis 1946, p. 110.)

Lewis (1946, p. 110) even likens meanings to entities living in Plato's heaven. The meaning of a term is what it is, and if there is a discrepancy between meanings, this is simply a case of using the same terms to signify different meanings, as is the case with homonyms. Recourse to such fixed meanings has, however, proved problematic.

While Lewis' position may be constructed as an abstract analytic framework, it is nonetheless vulnerable to arguments from the vagueness of natural language. In particular, Lewis' position is vulnerable to Wittgenstein's argument of family resemblance and its successors. According to Wittgenstein, two meanings might not resemble one another at all, apart from belonging to a "family" of similar meanings. (Wittgenstein 2001, p. 27 ff.)

Drawing from Wittgenstein, Eleanor Rosch demonstrated empirically that there are, indeed, minute variations both as to which entities are included in a class by a person, as well as variance from one person and culture to another. The empirical studies conducted by e.g. Rosch, Mervis and Lakoff that led to the conception of the prototype theory of concepts have provided grounds for a strong claim that natural language is thoroughly vague. The vagueness of natural language gives rise to a strong criticism of there being such distinct anticipatory schemata that would be shareable across a society as was argued above.

On the grounds of the work of Wittgenstein, Rosch and Lakoff, there is an indefinite variance of meanings from one culture to another, from one language-user to another, even in the use of one individual from one day to another. Attributing this variance to a shift from one meaning to another would

populate the world with such a myriad crowd of almost alike meanings that there would be no beginning of making sense of it. Furthermore, justifying why two almost alike, but not identical, meanings facilitate communication becomes difficult.

While Lewis' position does not offer a way out of the problem of vagueness, its usefulness may still be defended. It was argued in the first part of the present treatise that language should, indeed, be treated as vague in the sense that no such rigid distinctions can be made as are demanded from an analytic framework, barring abstractions or idealizations. An analytic framework, intensional semantics included, must, however, be construed rigidly enough for it to be useful. It should be asked what amount of detail we should include in an analytic framework so that it still remained useful for our philosophical purposes. Where is the line drawn where analytic distinctions become so myriad as to murk the intellectual clarity provided by the framework? It is a valid question whether the Lewisian analytic framework would actually benefit from an augmented level of detail, or whether introducing vagueness would render it so enormously complex that it would lose its heuristic value. It may, therefore, be argued that utilizing strictly dichotomous criteria as a way of abstracting regularities that obtain in the object of study can be defended.

Finally, if more finely cut distinctions are needed in the intensional framework, the framework may perhaps be developed to further account for the findings of Wittgenstein and Rosch. If distinctly dichotomous criteria cannot be established for concepts on the grounds of Rosch's and others' findings, the notion of intensional criteria could perhaps be salvaged by introducing *fuzzy* criteria.

The prototype theory has been often modeled using the fuzzy set theory of Lotfi A. Zadeh (1965). Also the intensional criteria that guide our attention in experience can be construed as fuzzy in a similar fashion. That is to say, the intensions can be construed as fuzzy so that some criteria would be more central for the application of a term than others. For instance, animalhood is more critical to catness, than, say, furriness. Nonetheless, both animalhood and furriness are criteria on grounds of which we normally identify cats. By distributing variable weights to different intensional criteria, fuzzy set theory could be employed in analyzing a term intensionally in greater detail. Further development of intensional semantics is demanded to establish whether such avenue of inquiry could in fact yield satisfactory results.

### 3.4.6 Anti-Descriptivism

The position on a priori knowledge defended above is based on Lewis' epistemology which is in turn driven by his intensional semantics. Lewis' semantics can be construed as a variant of classical descriptivism. In classical descriptivism, the sense of 'cat' was construed as 'feline animal'. In Lewis' intensional semantics, meanings are construed in a similar fashion: the intension of 'cat' is the conjunction of such terms as 'feline', 'animal', and so forth.<sup>105</sup>

<sup>105</sup> For accounts of classical descriptivism, see e.g. Frege (1892) and Russell (1905).

Around 1970's there surfaced, however, a very influential movement against classical descriptivism, whose culminating arguments pose problems also to Lewis' semantics, and consequently to the pragmatic a priori. The new theory of meaning, often referred to as the causal theory of meaning and advocated most prominently by Saul Kripke (1980), demonstrated that classical descriptivism was riddled with problems.<sup>106</sup>

The most famous arguments against descriptivism are the three arguments presented by Kripke in his seminal *Naming and Necessity*. These are the argument from ignorance, the argument from mistaken identity and the modal argument. (Kripke 1980, p. 71 ff.) Classical descriptivism held that the meaning of a term is the unique description associated with it. For example, the meaning of 'Richard Feynman' could be "the physicist who developed the Feynman diagrams". According to Kripke, such a definition of meaning is insufficient. He proceeds to demonstrate why this is the case.

Kripke's argument from ignorance states that a person may truthfully use such a term as 'Richard Feynman' to refer to the famous physicist, even if that person did not have any idea as to who Richard Feynman was. The argument from mistaken identity, in turn, refers to such cases where a person associates a faulty description to a name, such as in the case "Albert Einstein invented the atomic bomb." In such a case, the person still actually refers to Albert Einstein, even while the description she entertains is at fault. And the modal argument concerns the fact that such criteria as "the philosopher who taught Alexander" cannot be an a priori knowable criterion on the grounds of which the reference of such a term as 'Aristotle' is defined: it could conceivably have been that Aristotle never taught Alexander.

The debate between the advocates of some form of descriptivism, such as John Searle (1967) and Frank Jackson (1998) and the causal theorists is far from settled, and I cannot address these issues in detail here. There is, however, an avenue of inquiry that may be pursued to establish whether Lewis' semantics and his position on a priori knowledge survives the arguments grounded on the causal theory.

The evolutive nature of the intension could in fact be argued to show compatibility between intensional semantics and the causal theory. The causal theory is based on the idea that a name refers by a causal connection to its object. Instead of being dependent on intensional or definite descriptions, terms refer causally on the grounds of an initial contact with the object being denoted. A causal chain to the initial contact - initial "baptism", as Kripke calls it - then explains how terms denote.

The subjective evolution of intensions, as explained in chapter 3.2.5, can, however, be construed as a causal evolution, originating from the initial baptism. When coming to terms with an object for the first time, a person apprehends some such criteria on the grounds of which she will subsequently identify that object. As the object is studied further, and as the criteria are shared socially, the intension diversifies and evolves, but remains all the while causally connected to the original source of naming. Thus Lewis' systematization of the intension can be utilized to open up a fruitful avenue of

<sup>106</sup> The causal theory is also supported by e.g. Keith Donnellan (1970) and Hilary Putnam (1975).

inquiry to further develop the causal theory of meaning by explicating the causal relationship of a term to its object by intensional evolution.

### 3.4.7 Summary

While Lewis' account of a priori knowledge presents us with a powerful position that sheds light to many aspects of this type of knowledge, it is far from free of problems. Some of its problems ensue from its strong commitment to the analyticity of a priori knowledge. Others arise simply because the issues concerned were not yet raised before or during Lewis' time.

It is important to note that while Carnap has been customarily thought of as the primary advocate of framework-dependent notion of analyticity and consequently apriority in the literature of analytic philosophy, Lewis' position has some significant advantages over Carnap's more positivistically inclined position. Lewis' position stands stronger against GWQ owing to its more pragmatic and holistic commitments. His position is also less vulnerable against the dictionary regress argument that can be leveled against Carnap owing to his strong linguistic commitment. And finally, unlike Carnap, Lewis offers a detailed account of the criteria of choice of conceptual scheme in many of his works.

Lewis' position has not received substantial direct criticism. This is mainly due to its being shadowed ultimately by GWQ and philosophical developments that arose from that argument. Those few direct critiques that exist have arguably not considered thoroughly enough the extent to which Lewis repositioned the notion of a priori knowledge. Picking individual statements and arguments with no respect to Lewis' philosophical system leads to weak criticism of his position.

With respect to the contemporary discussion on a priori knowledge, the position defended here may receive criticism from other apriorists. Epistemic apriorists may also claim that a priori knowledge requires some ultimate epistemic justification such as rational insight. It was, however, argued, that intensional analysis functions as a sufficient justifier of a priori knowledge. Epistemic apriorists may rightly hold that intensional analysis is not necessarily an exclusive a priori justifier. While this may be the case, further clarification of the notion of intuition provided by the epistemists as the grounds of a priori justification is in order. Also, it should be noted that Lewis' position offers some promising avenues of inquiry to study with respect to the alleged intuitive justification.

Finally, an epistemic apriorist might raise issues concerning defeasibility. This argument could be addressed in at least two ways. First, the Lewisian could apply to the strength of intensional analysis as a justifier. And secondly, it might be argued that in a sense, a priori knowledge is indefeasible with respect to a particular conceptual scheme. An epistemic defeater could cause change of conceptual scheme but not defeat a priori knowledge with respect to the conceptual scheme within which it holds.

Non-epistemic apriorists may criticize Lewis' position of its refutation of the synthetic a priori. Lewis offers a quite strong argument in favor of the refutation. Nonetheless, the argument is sound only in the present analytic

framework. In a Kantian framework, for example, synthetic a priori still holds. Therefore, the question of the synthetic a priori is ultimately a question of a choice of analytic framework. Lewis' position may also attract accusations of logicism. This criticism, however, collapses because Lewis' position is not, in fact, committed to the reduction of mathematical truth to logical truth. Mathematical truth is intensionally subject to logical truth, but not reducible to it.

The findings concerning the vagueness of natural language also pose problems to Lewis' insistence that meaning is fixed. It may, however, be defended that Lewis' framework may be assumed as an abstractive framework, where the rigor that arises from fixed meanings serves a heuristic purpose. There are also potential avenues of inquiry that may be followed in order to develop Lewis' semantics further in the light of the findings of the advocates of the vagueness of natural language.

Owing to its strong foundation in semantics, Lewis' position is also vulnerable to findings in semantics of the latter half of the 20th century. The causal theory of meaning poses problems to Lewisian semantics just like it does to classical descriptivism. A degree of compatibility may, however, be establishable by applying to the evolution of concepts as an explication of the causal progression involved in the causal theory.

Lewis' position provides us with a powerful framework in terms of which we may determine which beliefs we can justify independently of experience and which require experiential justification. Lewis' intensional semantics is an analytic framework that can be used to abstract certain regularities that obtain in natural language. As a model of natural language, it abstracts and simplifies from the complexities of natural language. In rendering explicit the pragmatic nature of our conceptual commitments and in giving us insight concerning the relationship of conceptual principles and a priori knowledge, commitment to Lewis' position yields productive results and opens up promising avenues of further inquiry.

### 3.5 Concluding Remarks

The Goodman-White-Quine argument left us in the position where, in order to salvage the notion of a priori knowledge, it had to be construed as an abstraction that brings to light some such properties of the conditions of knowledge that are generic, if not universal. It was subsequently argued that in this light, a strong case for a priori knowledge could be built by drawing from C.I. Lewis' philosophy.

It was also argued that a priori knowledge can be justified by semantic analysis. To this end, Lewis produces a powerful and detailed account of meaning and analyticity that relies on his notion of intensionality. The analyticity of statements is determined on the grounds of the intensions of their component terms and their syntactic relations. By coming to understand that an attribution made in an analytic statement only explicates the intensional

structure of the terms used in it, we may determine that such a statement holds come what may. Analyticity, therefore, coincides with apriority.

Owing to its analytic nature, a priori knowledge concerns conceptual principles. A concept is what a term names: it is, in other words, the meaning of the term. A concept is a disposition or habit that allows us to differentiate and classify experience by guiding our attention to what is given in experience. Concepts form conceptual principles. Conceptual principles are either simple concepts or complex conceptual patterns. All together, the conceptual principles entertained form a conceptual scheme: an interdependent network of conceptual principles that guides our attention to what we experience.

Conceptual schemes are plastic in the sense that there is no one privileged God's Eye View to the world. Rather, many perspectives function well in our pursuits. Conceptual schemes also evolve as a person learns to interrogate her experience more efficiently, and as a society makes conceptual breakthroughs, such as scientific revolutions. The latter causes the reconfiguration of the conceptual scheme on the grounds of the findings.

There are two reasons why a priori knowledge concerns conceptual schemes. First of all, conceptual principles may be rendered explicit by intensional analysis which is a non-experiential activity. By analyzing our conceptual principles we render explicit our practices and conventions of classification which we will not forgo in the face of any experience. Secondly, we can only know a priori that which we ourselves bring to experience. Knowledge of what is given in experience requires always experiential corroboration and is therefore knowable only a posteriori. Therefore a priori knowledge targets exclusively the ways we ourselves classify experience.

Conceptual principles are in a peculiar way both relative and universal. They are relative on the grounds of their plasticity. But they are also universal in the sense that once a given conceptual scheme is adopted, its categorial truths hold come what may. The truths of each conceptual scheme are universal reflexive to that scheme, just like the axioms of Euclidean geometry are universal reflexively to Euclidean geometry.

The provisional universality of a priori knowable conceptual principles also reflects the metaphysical structure of the world. This is because commitment to given conceptual principles *works*. Therefore there must be something that satisfies the principles, albeit aspectually and partially. Because a priori knowledge holds in all possible worlds, and reflects the metaphysical structure of the world, a priori knowledge is in a quite classical sense metaphysically necessary.

Finally, the criteria for adopting a given conceptual scheme cannot be based on its veridicality or consistency. The veridicality of a conceptual scheme arises from itself: the conceptual principles function as the grounds of interpreting what is true and what is false. And since there are several consistent conceptual schemes, they cannot be pitted against one another on the grounds of consistency. We adopt a conceptual scheme because it allows us to expediently pursue our goals and purposes in the world. Therefore, the criteria for adopting a conceptual scheme, and consequently the fundamentals of what can be known a priori, are ultimately pragmatic.

Lewis' account provides us with a systematic and elaborate characterization of a priori knowledge. Lewis' theory provides us with a concise account of the nature and object of a priori knowledge that steers on the one hand clear of the problem of the alleged infallibility of the classical positions, and on the other presents a functional approach to explain the fact that we do know the truth of many statements independently of experience. As such, the Lewisian position is of significant philosophical value and should be included as an important point of view in the contemporary discussion on a priori knowledge.

## 4 CONCLUSION

In the beginning of the present work, I set out to address two questions. They were:

- 1) Is there a priori knowledge?
- 2) If yes, then what is the nature and object of a priori knowledge?

The motivation for the present study arose from the fact that both the classical positions on a priori knowledge as well as the contemporary positions derived from them have met with problems that have called the entire notion of a priori knowledge to doubt. The classical positions on a priori knowledge encountered problems on the grounds of their assumed infallibility. These problems have been addressed by many epistemically and non-epistemically oriented apriorists with varying success. Even the contemporary positions face a challenge, however, with the question of the viability of the notion of a priori knowledge. Therefore it was suggested that the discussion could benefit from repositioning.

The first step of the repositioning was to address the question of the viability of a priori knowledge. This inquiry was pursued in the context of the most prominent anti-apriorist argument of the 20<sup>th</sup> century, the argument against analyticity of Goodman, White and Quine. It was acknowledged, that the classical infallibilist positions became untenable by the latest in the context of GWQ. However, this left us with a void to explain the apparent epistemic difference in the justification of certain statements. It was subsequently argued that while GWQ convincingly demonstrated that no classically rigid dichotomies could be employed in the discussion on a priori knowledge, using the analytic-synthetic and a priori - a posteriori distinctions as heuristic devices to elucidate language use and epistemic practices, we could present a philosophical account of the observed epistemic differences between statements that seem to require experiential corroboration and statements that do not. By employing such heuristics, the answer to the first question was affirmative:



there are such statements whose truth can be known a priori, insofar as we can demonstrate by semantic analysis or some such method that such statements' truth requires no further experiential corroboration. In other words, there is such a thing as a priori knowledge, and it concerns true beliefs that are justified by semantic analysis carried out in a consistent analytic framework.

It was then argued that powerful tools for the repositioning required to study the nature and object of a priori knowledge could be found in the semantics and epistemology of the American pragmatist C.I. Lewis. It was argued that Lewis' intensional semantics provides us with a rigorous and powerful analytic framework within which we can make sense of such arguably vague notions connected to analyticity as predicate containment. In exploring Lewis' intensional semantics, it was argued that Lewis' framework provides us with the tools with which we may analyze statements to find out whether or not their truth requires further empirical corroboration. Since intensional analysis is a non-experiential activity, it suffices as a criterion for a priori knowledge as defined in (AP) in chapter 1.3. A priori knowledge is, thus, knowledge that is justified on grounds of intensional analysis. To paraphrase, a priori knowledge concerns a belief that is justified by intensionally demonstrating that a statement expressing the belief is true or false regardless of empirical circumstances.

Having thus established a case for the analytic nature of a priori knowledge, the next topic was the object of a priori knowledge. It was argued that, following Kant, we can know prior to experience only that which we ourselves bring to experience. Therefore, a priori knowledge concerns the conceptual principles that we commit to in order to make sense of experience. The object of a priori knowledge is the conceptual scheme in terms of which we make sense of what we experience. More specifically, a priori knowledge concerns the conceptual principles nested within a conceptual scheme.

It was argued that conceptual schemes evolve both individually and socially. Therefore, particular a priori knowledge holds only with respect to the presently employed conceptual scheme. Because the very criteria of veridicality arise from the conceptual scheme itself, another criterion for choosing a conceptual scheme, and thereby delimiting the scope of a priori knowledge, was required. It was finally argued that criterion of choice of a conceptual scheme is pragmatic. Such concepts survive evolution that work for our purposes, and such that produce results at odds with our bent and needs get weeded out. Because the criteria of the choice of conceptual scheme are pragmatic, and because the a priori knowable truths are the conceptual principles contained in a particular conceptual scheme, what can be known a priori is ultimately based on our needs and desires. Therefore, the nature of a priori knowledge is thoroughly pragmatic.

A priori knowledge concerns expectations, not observations. A priori knowledge concerns conceptual principles that guide our attention in experience, which can either be included in a conceptual scheme or discarded thereof, depending on pragmatic criteria. Conceptual principles allow us to anticipate future experience, to classify experience, and to share our experiences with others. Our conceptual principles direct our attention to various facets of

experience at the expense of others. This produces a position that is perspectival or aspectual: the world can be viewed in various different ways.

Lewis' epistemology and semantics produce a graceful position on a priori knowledge. The Lewisian account of a priori knowledge steers clear of the problems evoked by the classical positions on a priori knowledge, which arise from the assumption of the infallibility of a priori knowledge. Furthermore, it offers us a powerful analytic tool to render explicit those conceptual structures we are committed to. In so doing, we can explain many of the notions pertaining to the special epistemic status of statements that are considered knowable a priori. What we know a priori are the conceptual principles that direct our attention in experience. What the mind introduces to experience holds under all circumstances, for it is what we are committed to maintain, no matter what.

The intention of the present work has not been to settle conclusively the question of a priori knowledge. It has, rather, been to defend a pragmatic approach to a priori knowledge, one that may first elucidate the nature of such knowledge, and second offer further fruitful avenues of inquiry to pursue. I wish, therefore, to conclude with a sentiment that I fully share with Lewis; one that he expressed in his autobiography concerning the theses put forward in his first epistemological monograph, *Mind and the World Order*. Lewis wrote:

I wish only that my discussion in the book had less the air of 'proving;' and more that of simply calling attention to: I come to think that matters so fundamental are, just by being thus fundamental, beyond the reach of anything appropriately to be regarded as proof. (Lewis 1968b, p. 19.)

In this work, I have defended three theses. First: there is a priori knowledge. Second: the object of a priori knowledge is the conceptual scheme. And third: the nature of a priori knowledge is pragmatic. In defending these theses, I hope to have succeeded, similarly to Lewis, in calling attention to some of the peculiar features of that elusive concept central to so much of philosophy: a priori knowledge.

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