W.V. Quine's Naturalized Epistemology and Rationality

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1. Introduction

Willard Van Orman Quine's naturalized account of epistemology may be interpreted as merely an extension of one side in the age-old rationalist/empiricist debate for it identifies empirical observation as the guiding norm of any theory. This focus on observation is expressed in his use of the term "science" to generally describe our theorizing about the nature of world and our relationship to it. He maintains that nearly any body of knowledge that is sufficiently organized to exhibit appropriate evidential relationships among its constituent claims has at least some call to be seen as scientific. In this way, "what makes for science is system" (1978, 3). By his radically different philosophical system, Quine departs from traditionalist rationalism and empiricism in that he postulates the reciprocal containment of epistemology within science and vice-versa. Quine admittedly does not hold grudges with traditionalists who protest his retention of the term "epistemology" for he has a wholly different understanding of what counts as an epistemologically meaningful question.

In his use of "science," Quine intends to further convey a perpetual and uninterrupted yearning for truth in theorizing. This yearning is based on his view of science as an abstract construct that enables us to constantly regard our theoretical methods as bolstering a feeling of unregenerate realism. However, he simultaneously warns us that "in science, as elsewhere, use of the soundest methods does not bestow a guarantee that viable theory will accrue; nor, it should be said, does improper method, even combined with the lowest motives, altogether preclude arrival at truth" (1978, 8). As such, we should begin to understand the fundamental purpose of naturalized epistemology as clarifying rationality in terms of how the historical path of science unfolds from the past, through the present, and into the future in the face of radical freedom against which our theorizing, including logically determined evidential relationships among our constituent claims as well as open normative questioning, occurs.

Quine maintains that there is no simple touchstone for responsible belief. Yet, his understanding of rationality is as rigorous as his realism is robust. It is in terms of how he innovatively renders the connection between rationality and scientific realism that we can begin to understand rationality as something more than automatically determined by the logical methods of science, as more than merely instrumentalism about science. Naturalized epistemology, in virtue of its concern with clarifying the nature of the internal workings of science, re-shapes the scientific project by portraying all of our scientific claims as ultimately hypothetical in nature. Given this epistemological realization, Quine concludes that the human knower can only tentatively and conjecturally cling to claims of knowledge. In this way, rationality is portrayed in more dynamic terms as beliefs are opened up to continued test and more elaborate and substantial confirmation—that is, to further rationalization.

My aim in this essay is to portray Quine's naturalized epistemology, despite its points of departure from traditionalist rationalist and empiricist epistemologies, as a viable theory of knowledge. I will conclude by discussing the altered understanding of rationality that emerges from Quine's account.

In Chapter 2, I will discuss how Quine's epistemology entails a rejection of the *a priori/a posteriori* distinction. More specifically, I will discuss how his repudiation of the language/theory dichotomy effects this rejection as it identifies the basic empirical origin of all linguistic and theoretical acts. Furthermore, I will highlight Quine's particular rhetorical treatment of the notion of "intuition," as it implies *a priori* rational intuition. In subsequent parts of this essay, I will refer often to the views outlined in this chapter, as they are the basis for understanding Quine's motivations in developing his account of naturalized epistemology.

I will go on in Chapter 3 to consider the opposing traditionalist foundationalism of Laurence BonJour. I will use his account to explicate the conception of *a priori* insight that Quine rejects. Furthermore, I will use BonJour's account to illustrate how Quine's epistemology

differs wholly from that of the prototypical empiricist as well as of the prototypical rationalist. I will portray traditionalist epistemologies as foundationalist in terms of the concern with the normative requirement of linear propositional support. I will characterize Quine's anti-foundationalism in terms of his flouting of this requirement by advocating the concept of reciprocal containment.

Chapter 4 will ultimately identify the issues of normativity and justification as specific points of departure of Quine's account from traditionalist ones. I will begin first by considering Laurence BonJour's direct arguments against naturalized epistemology, and then move toward offering a Quinean counter to these arguments. In the process, I will depict the hypothesis formation and testing process of science that naturalized epistemology seeks to clarify and improve. In terms of this purpose of clarification, I will show how Quine's account offers a viable theory of knowledge that more accurately captures the nature of human belief.

Finally, in Chapter 5, I will discuss the view of rationality that is suggested by Quine's account and as it emerges out of my preceding characterization of naturalized epistemology.

2. Quine's Target in "Two Dogmas": The *A Priori*

2.1

Quine's answer to the question regarding the nature and possibility of the appeal to *a priori* insight can be traced to his arguments regarding analyticity that are found in his seminal article "Two Dogmas of Empiricism." In considering analyticity, he is beginning to draw certain conclusions that are constitutive of this deeper issue. In this sense, the orthodox reading of that article, which is closed in consideration to the issue of *a priori* justification, does not account for the variety of conclusions that Quine begins to draw for his philosophy in its earlier expository stages.

I will begin in Section 2.2 to explain how the orthodox reading stops short of considering how Quine's arguments in "Two Dogmas" make contact with the issue of the *a priori*. In Section 2.3, I will illustrate how Quine's treatment of the analytic/synthetic distinction in "Two Dogmas" serves as an introduction to his characteristic epistemological holism and account of the language/theory dichotomy. I will conclude this chapter by examining in Section 2.4 the indirect manner in which Quine advocates his belief in the impossibility of an intuitive *a priori* appeal.

2.2

The orthodox reading of "Two Dogmas" goes like the following: Quine was attacking the analytic/synthetic distinction; his argument was simply that all attempts to define the distinction are circular. More specifically, in §§2-3, he is arguing that neither definition, nor synonymy, nor necessity can explain the concept of analyticity without presupposing it. For example, Quine writes that if a language contains the intensional adverb 'necessarily,' then "interchangeability *salva vertitate* does afford a sufficient condition of cognitive synonymy; but

such a language is intelligible only in so far as the notion of analyticity is already understood in advance" (1980, 31). With these words, his aim is merely to illustrate the latent underlying presupposition of analyticity when attempting to explain interchangeability of analytic statements with their definiens through the notion of necessity. In fulfilling this aim, Quine conflates analyticity with the notion of metaphysical *a priori* necessity.

At this point, the traditionalist can indeed insert a wedge into Quine's arguments by maintaining that these two notions are completely separable within the theoretical process. He can claim that "whether the concept of analyticity proves to be coherent or not is of little epistemic consequence since it cannot discharge the explanatory burden" that is put on the one who is attempting to reject the *a priori* (Casullo 2003, 234). After giving "Two Dogmas" its orthodox reading, he may seemingly still go on to develop an account of apriority that avoids direct reliance on analyticity. In effect, the traditionalist, in assessing Quine's arguments, distinguishes two distinct theses in his reading of that article: "(1) the thesis that the concept of analyticity is so unclear as to be unintelligible, and (2) the thesis that there is no *a priori* justification or knowledge" (BonJour 1998, 66). Having considered Quine's arguments through §3, he may have recognized that analyticity can offer little in the way of substantial explanatory power. As such, he attempts to characterize the question of how *a priori* knowledge is possible in a way that goes beyond the analytic/synthetic distinction.

Quine, in fact, is attempting to draw conclusions that span beyond the semantic issues involved in the analytic/synthetic distinction. The further epistemic implications rest on the premise expressing the notion of metaphysical necessity that if someone knows *a priori* that *p*, then *p* is indefeasible by experiential evidence. This premise seems to assert that the concept of *a priori* knowledge involves or entails an indefeasibility condition, which is an epistemic, as opposed to merely a semantic, condition (Casullo 2003, 236). Casullo, as a type of traditionalist, believes that the semantic defeasibility of analytic statements does not imply the epistemic

defeasibility of statements reflecting *a priori* knowledge. He believes that this premise does not apply to a consideration of the "more general" question of whether the epistemic concept of nonexperiential justification is cogent. Given these considerations, the concern of certain traditionalists can be characterized in terms of whether there is a mode of thought that depends only on pure reason or rational thought and not at all on any input of an experiential or quasi-experiential sort.

To be more specific regarding this issue, I will take BonJour's comments as representative of a traditional rationalist response to the question of what counts as knowledge and as experience. He admittedly "follows Kant and the overall tradition by stipulating that a proposition will count as being justified *a priori* as long as no appeal to experience is needed for the proposition to be justified *once it is understood*, where it is allowed that experience may have been needed to achieve such an understanding" (1998, 10). Thus, in light of BonJour's comments, what the traditionalist aims to isolate is the cognitive processing of a proposition by a pure, isolated intellect, which is not directly susceptible to causal-empirical forces that are part of the contingent world, as contrasted with other possible worlds; such forces may nevertheless form the base origin of certain concepts considered at the nonexperiential level. The question of how empirical observation may motivate the traditional rationalist epistemologist to revise *a priori* justified propositions and reconsider the notion of metaphysical necessity will be considered in the next chapter, in a discussion of BonJour's moderate rationalist position.

2.3

To do full justice to the breadth of Quine's arguments in "Two Dogmas," we must realize that his rejection of analyticity calls into question the language/theory dichotomy. In this way, he paves the road towards his characteristic epistemological holism. It is because analyticity

leads us to reconsider the language/theory dichotomy that it is the basis of a holistic argument against the possibility of appeal to nonexperiential justification. Reconsideration of this dichotomy necessarily leads to reconsideration of the derivative semantic/epistemic distinction by which the traditionalist interprets Quine's notion of revisability. The original premise that if someone knows *a priori* that *p*, then *p* is indefeasible by experiential evidence therefore is implicated and considered in Quine's rejection of the *a priori*, of the notion of nonexperiential justification.

It is evident that Quine considers this premise in his arguments that introduce his holism for he maintains, by this view, that all theoretical statements in varying degrees impinge on experience. In concluding his discussion of analyticity proper in §4, Quine states:

> It is obvious that truth in general depends on both language and extralinguistic fact. The statement 'Brutus killed Caesar' would be false if the world had been different in certain ways, but it would also be false if the word 'killed' happened rather to have the sense of 'begat.' Thus one is tempted to suppose in general that the truth of a statement is somehow analyzable into a linguistic component and a factual component. Given this supposition, it next becomes reasonable that in some statements the factual component should be null; and these are the analytic statements. But, for all its a priori reasonableness, a boundary between analytic and synthetic statements simply has not been drawn. That there is such a distinction to be drawn at all is an unempirical dogma of empiricists, a metaphysical article of faith (1980, 36-7).

By these words, Quine illustrates the way in which we may be led to slight the experiential origin of all theoretical statements. When we consider a statement atomisically, or apart from the greater linguistic context in which it is used, it appears that we can make a pure conceptual distinction between its linguistic elements and its observational elements. Certain statements abstract greatly from our individual range of experience, such as the statement regarding the event of Brutus killing Caesar. We may accept it as a tautological truth based on its degree of abstraction from observable events and when schematized in the logical form of p or $\neg p$ such that "Brutus killed Caesar or Brutus did not kill Caesar." Given that this logical formulation seems to owe its truth solely to the fact that we use certain words—i.e. 'or' and 'not'—as we do,

it may appear to us that the purely observational elements may be analyzed out of individual statements. This process would yield certain sentences that appear to have a null factual component, that we accept as true solely in terms of the ordering of its pure linguistic elements. Indeed, this is what the notion of analyticity entails. This sequence of thought culminates in the affirmation of a particular kind of metaphysical value to the analytic/synthetic distinction itself. By these arguments, Quine considers and rejects the original premise—that is, the premise that *a priori* knowing *p* does not imply any substantive causal-empirical beliefs. The resulting view is that propositions believed by traditionalists as known and justified *a priori* differ from synthetic propositions merely in degree of abstraction from a fundamentally empirical origin.

This view entails that the linguistic and factual components of language are not distinct and separable from each other. In highlighting this notion, he writes:

> My present suggestion is that 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. Taken collectively, science has its double dependence upon language and experience; but this duality is not significantly traceable into the statements of science taken one by one (1980, 42).

Quine is here expressing his holistic conclusion against radical reductionism—that is, the notion upholding the reduction of individual terms and statements to immediate experience of the world. This follows from his belief that any statement, when considered with the rest of the statements of the theory, simultaneously contains a linguistic and factual component—that is, an analytic and a non-analytic component, to use the terminology of the non-Quinean. Quine's holism maintains that all of a science's statements include a factual and a linguistic component. Furthermore, in virtue of common empirical beliefs and shared linguistic conventions, all of a science's statements are related to and entail each other.

As such, if the linguistic and factual components cannot be analyzed out of individual sentences, it makes no sense to think there are sentences with null factual content, or analytic propositions, which can be identified and singled out as forming the basis of a speaker's

commitment to a particular linguistic theory. Because of the impossibility of separating linguistic and factual components given the nature of language, the analytic/synthetic distinction cannot be drawn.

The underlying notion regarding why this distinction cannot be drawn upholds that language use is rendered meaningful in terms of the factual content and particular rudimentary empirical beliefs expressed in all of a language's sentences. This notion implies that "at the level of observation sentences our knowing the language and our having rudimentary empirical beliefs are one and the same thing" (Gregory 1999, 57). As such, a speaker of a language automatically holds a theoretical commitment to certain empirical beliefs in virtue of fluently speaking that language with other speakers, even when directly avoiding the question regarding what statements in that language are to be considered analytic. Furthermore, analyticity promised to distinguish those sentences that are constitutive of the language from those which are part of the open expressive power of the language (Gregory 1999, 49). In light of Quine's arguments, there is no segment of language that can be characterized by an "open expressive power"—that is, a segment that functions separately from constitutive analytic statements and apart from particular commitment to rudimentary yet substantial empirical beliefs. The language/theory dichotomy is rejected as speaking a language implies a fundamental theoretical commitment in terms of those beliefs.

The resulting view forbids the characterization of language as a "neutral substrate distinct from the content expressed in it." We are moved toward an understanding of language and theory as "inextricable pieces of an adaptive system for interacting with the environment" (Gregory 1999, 40). Once we understand that speaking a language fundamentally involves a theoretical commitment in virtue of basic empirical beliefs, we can begin to understand how Quine's holism entails the notion of why we cannot make conceptual appeals that span beyond the boundaries of our working theory. There is no segment of language that we can use to

develop an extra-linguistic, or theory-neutral conception, of the *a priori*. Casullo's "more general" question regarding the cogency of the epistemic concept of nonexperiential justification is rendered nonsensical by Quine's interpretation of the language/theory dichotomy. By repudiating this dichotomy, Quine has also rejected the semantic/epistemic distinction that leads Casullo to consider the question of the *a priori* as due consideration apart from particular semantic issues. His attempt to avoid the semantic issue of analyticity reveals that he cannot avoid relying on the factual component of language, or avoid theoretical commitment to empirical beliefs. One cannot purport to ask his question by way of the "open expressive power of language." Theory-neutral intuitive appeals are rendered impossible, or lacking objective meaning.[1] In these ways, Quine's account radically changes our understanding of what constitutes an epistemologically significant question.

When understood in terms of this greater concern, Quine's arguments for the rejection of analyticity, as they appear in §§2-4 of "Two Dogmas," imply his brand of holism. In §6, the concluding section of that article, he states that the totality of our claims of knowledge constitutes a "man-made fabric which impinges on experience only along the edges" and that a "conflict with experience at the periphery occasions readjustments in the interior of the field" (1980, 42). Once we understand Quine's repudiation of the language/theory dichotomy, his declaration that "any statement can be held true come what may, if we make drastic enough adjustments elsewhere in the system" (1980, 43) hits us with the implication he intended. That is, his holism entails the belief that all claims of knowledge are based on, and revisable in terms of, experience. This is the case because, as the formulation of theoretical statements is initially accomplished in terms of shared empirical beliefs, so their revision will take place directly in terms of subsequent empirical observation.

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[1] I will further elaborate on Quine's understanding of linguistic meaning as fundamentally empirical in nature in Chapter 4 when discussing how objectivity arises out of intersubjective checkpoints.

We are, however, highly unlikely to revise certain central claims of our working theory. Quine's relatively stable account of rationality is based on this historical improbability or unwillingness to revise certain fundamental claims of our inherited theories. Thus, the compelling aspect of Quine's philosophy is rendered by his ability to reconcile the holistic relativity of our beliefs with our inherent conservatism with regards to an account of rationality. This aspect is characterized in terms of how we quantify empirical observation in terms of the process of scientific hypothesis formation and the development of theoretical sentences out of this process. This aspect will be considered in detail in Chapter 4 in conjunction with the issue of Quine's scientific realism.

2.4

In the previous section, discussion was focused on the ultimately unsupportable accusation that in "Two Dogmas" Quine does not address the *a priori*, which is the main target of his arguments. Nevertheless, it is curious that Quine rarely addresses aprioirity explicitly by name. One surface rhetorical reason why this is so perhaps is that this would appear to be an attempt to engage in *a priori* thought, which is something that Quine's view of language precludes.

In *Word and Object*, his one explict use of the term "*a priori*" is in a section regarding analyticity. He initially discusses "analyticity intuitions" as they supposedly accompany those statements that automatically appear to be true in virtue of pure linguistic elements. He conflates these intuitions with "rational intuitions" that, according to BonJour and as we shall see in the next chapter, characterize *a priori* thought. Quine states that the "intuitions are blameless in their way, but it would be a mistake to look to them for a sweeping epistemological dichotomy between analytic truths as by-products of language and synthetic truths as reports on the world"

(1960, 67). In this statement, Quine again apparently conflates analyticity with the notion of *a priori* necessity, a problem noted in Section 2.2. Yet, as this problem is resolved in Section 2.3, Quine, in virtue of his repudiation of the language/theory dichotomy, does not believe that metaphysical necessity can be addressed without reliance on purely linguistic elements and rudimentary empirical beliefs that are constitutive of a particular language. Recall that all theorizing depends on linguistic as well as factual components. Thus, this particular statement further expresses his reticence of directly discussing apriority by conflating it with analyticity.

In the concluding paragraphs of the same book, he writes:

> The philosopher's task differs from the others', then, in detail; but in no such drastic way as those suppose who imagine for the philosopher a vantage point outside the conceptual scheme that he takes in charge. There is no cosmic exile (1960, 275).

Here, he is equating the cognitive process that purportedly takes place when attempting to think in *a priori* terms to "cosmic exile"—when considered in terms of his view of language as it entails the belief in the empirical origin of all statements, such a celestial leap is simply unimaginable. Appeal to *a priori* insight renders language meaningless because the statements used to express this insight slight their experiential origin and ignore the necessary role of intersubjective checkpoints in creating meaning to uttered statements. As such, discussion of *a priori* statements is, according to a strict interpretation of Quine's views on language, a meaningless string of sounds and gestures. One cannot purport to meaningfully express thoughts that are particular to one's isolated intellect—that is, one cannot use language apart from rudimentary empirical beliefs on which it is based. Furthermore, it is meaningless to attempt to think of our conscious cognitive processes as able to be expressed outside of our language, given that language is the basis of the thoughts of the human subject.

In *Web of Belief*, Quine characterizes the nature by which he justifies statements of his scientific theory by the application of the theory's methods. In introducing his notion of rationality as theory-dependent, he declares:

> Insofar as we are rational in our beliefs, the intensity of belief will tend to correspond to the firmness of available evidence. Insofar as we are rational, we will drop a belief when we have tried in vain to find evidence for it (1978, 16).

In this way, Quine indirectly addresses apriority by preventing a theory-neutral, or here extra-scientific, move that is involved in an appeal to *a priori* insight to justify a particular belief. In other words, there is nowhere "deeper" to look than our own observations. He goes on to say that in attempting to justify beliefs by appeal to intuition, which, for not amounting to anything meaningful, reveals a lack of "reasoned support." In this sense, Quine's notion of rationality is essentially tied with the internal workings of one's scientific theory. In examining our basic modes of reasoning, Quine states that we cannot hope to "dissociate ourselves from what is under scrutiny"—that is, in examining the methods of science, we cannot meaningfully appeal to thought that attempts to remove itself from the causal, inductive process that we are investigating through our science.

These substantial views contrast with BonJour's rhetorical insistence on the distinct, irreducible nature of *a priori* thought, which I will consider in the next chapter.

3. Traditionalist Foundationalism and Quinean Naturalism

3.1

In his book *In Defense of Pure Reason: A Rationalist Account of* A Priori *Justification*, Laurence BonJour identifies his central thesis with what he takes to be the main thesis of epistemological rationalism—namely, that a "viable non-skeptical epistemology, rather than downgrading or rejecting *a priori* insight, must accept it more or less at face value as a genuine and autonomous source of epistemic justification and knowledge" (1998, 98). Despite BonJour's seemingly superficial insistence on the importance of this type of intuitive insight as evidenced in this standard quote, it gradually becomes evident to the reader that what underlies his arguments is a sincere, deep-seated commitment to the notion of the distinct and irreducible nature of *a priori* thought. Furthermore, BonJour portrays *a priori* thought, in virtue of its irreducibility, as fundamental to any epistemologist who holds the foundationalist concern of justifying a substantive theory on the nature of reality apart from that theory's internal operations.

BonJour's various positive and negative arguments in support of his epistemological foundationalism set up a clear contrast between traditional rationalist epistemology and Quine's naturalized epistemology. This contrast is primarily conveyed to the reader in terms of BonJour's admission that Quine's well-integrated epistemological views are impervious to any direct refutation. Given his concern with the systematic whole of what constitutes Quine's epistemology, BonJour's arguments against naturalized epistemology nevertheless fail to consider certain fundamental features of Quine's philosophical system—namely, his views regarding the nature of language that reveal all inquiry as necessarily beginning from within on-going theoretical commitments, as discussed in the previous chapter in terms of his repudiation of the language/theory dichotomy. As such, BonJour fails in terms of his arguments to realize

how naturalized epistemology is a viable theory of knowledge. Indeed, he fails to realize that this altered epistemological view more accurately captures how we actually proceed in theorizing about the nature of the reality.[2]

In Section 3.2, I will expound on BonJour's view on the distinct nature of *a priori* thought and its particular justificatory role. In Section 3.3, I will discuss, in terms of BonJour's own presentation, how the *a priori* characterizes the foundationalist epistemological project of the prototypical empiricist as well as that of the prototypical rationalist. In Section 3.4, I will characterize the foundationalist concerns of traditionalist epistemologists in terms of their commitment to the normative requirement of linear propositional support (l.p.s.). In concluding this chapter, I will begin to discuss in Section 3.5 how Quine's repudiation of the l.p.s. requirement begins to reveal his naturalized epistemology as departing from traditional epistemological concerns. This section will pave the ground for next chapter's discussion of specific points of departure of Quine's epistemology from traditionalist accounts and how these points promote an altered understanding of the epistemological project.

3.2

In "Chapter 1: The Problem of *A Priori* Justification," BonJour lays out the reasons why he believes the appeal to *a priori* insight is fundamental to any epistemology by which a human knower can securely hold on to particular claims of knowledge. He refers often to the statements he makes in this chapter in other parts of his book, and they are the basis of his more detailed comments on apriority in subsequent chapters.

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[2] It should be noted that, in this essay, I accept the integrity of BonJour's arguments in support of his belief in the fundamental justificatory role of the *a priori* in his epistemology. I will not attempt to reinterpret his philosophical moves in naturalistic terms, in a way that attempts to show him as doing philosophy in the only way that Quine believes it possibly can be done. Rather, I will use BonJour's statements as rhetorical contrasts aiding me in my objective of more clearly characterizing the boundaries that surround Quine's substantive views. In this way, I give Quinean semantic assent to BonJour's terms that denote intuitive cognitive processes, but do not commit myself to the notions that they purport to express.

In his opening paragraph, BonJour identifies the specific nature of the concept of justification that he intends to articulate. He mentions that although one might accept a belief "for moral reasons or pragmatic reasons or religious reasons," such reasons cannot satisfy what he considers to be the "requirements of knowledge" (1998, 1). In a flash of rhetorical force, he continues:

> Knowledge requires that the belief in question be justified or rational in a way that is internally connected to the defining goal of the cognitive enterprise, that is, that there be a reason that enhances, to an appropriate degree, the chances that the belief is *true* (1998, 1).

With this statement and others similar in tone, BonJour intends to introduce the philosophical issue of epistemic justification in a manner that distinguishes it from the justification we may give our everyday beliefs in ordinary circumstances. By his rhetorical tone, he creates a rarefied atmosphere in which communication with the reader will take place, as if the atmosphere itself is expressive of and essentially tied up with the age-less and immaterial nature of the subject matter.

Immediately following these opening remarks, BonJour goes on to align himself with the long-lasting philosophical tradition that relied on the notion of *a priori* thought, despite the various historical interpretations of this notion. He feels that philosophers from Plato on down to Leibniz and Locke would have regarded this general line of argument as "obvious and conclusive" and that it is hard to understand the contemporary widespread failure to acknowledge it.

For BonJour, *a priori* justification of propositions entails an intellectual act of seeing or grasping or apprehending in a seemingly "direct and unmediated way" that the claim in question cannot fail to be true. In regard to this act, BonJour states that "it is this direct insight into the necessity of the claim in question that seems, at least *prima facie*, to justify my accepting it as true" (1998, 101). He goes on to acknowledge that it is common to refer to the intellectual act in

which the necessity of such a proposition is seen or grasped or apprehended as an act of "*rational insight* or *rational intuition*, where these phrases are mainly a way of stressing that such an act is seemingly (a) direct or immediate, non-discursive, and yet also (b) intellectual or reason-governed, anything but arbitrary or brute in character" (1998, 102). In this way, BonJour is expressing what is, on his part, a conscious perception of the unique nature of an *a priori* thought in contrast to other intellectual acts.

He wants to highlight his understanding of *a priori* thoughts, in terms of their *prima facie* distinct nature, as *irreducible*—that is, "they are apparently incapable of being reduced to or constituted out of some constellation of discursive steps of simpler cognitive elements of some other kinds" (1998, 108). Given this irreducibility, BonJour admits that, from an intuitive standpoint, *a priori* thought apparently purports to be nothing less than rational insight into the necessary character of reality. However, he simultaneously maintains the belief that the *a priori/a posteriori* and the necessary/contingent distinctions, though related in important ways, are quite distinct in both meaning and application, a very long philosophical tradition to the contrary notwithstanding. BonJour states that, in his view, the notion of *a priori* thought serves epistemological purposes while the notion of necessity serves metaphysical purposes. Given this concern, what he attempts to primarily convey by his use of the label *a priori* is his belief that the justifying thought is wholly removed from the causal process and independent of judgments that are shaped by empirical matters. Yet, he holds this belief in avoidance of immediately making a metaphysical claim of necessity.

He astutely goes on to admit that what inescapably underlies his discussion is the implicit presupposition that *a priori* justification guarantees the truth of the proposition justified and, in this way, naturally gives rise to its consideration in other possible worlds scenarios. As such, it appears it would not be possible for a proposition to be justified *a priori* but be nonetheless false. He considers the alternative of refusing to think at all about necessity as drastic and unwarranted.

In expressing his belief in the unfeasibility of this move, he declares that it is hard to see how any serious effort at reflective thought about justification could fail to reflect an apparent perception of necessity. He immediately concludes this discussion by urging that "fallibility appears indeed to be an unavoidable aspect of the human condition in all or virtually all areas of cognition" (1998, 115). Despite the open possibility of the fallibility of *a priori* thought and our inability to always correctly identify propositions capturing necessarily true beliefs, he feels that giving up on the concept of *a priori* justification would be extreme and quixotic, as would giving up reliance on sense perception because of its fallibility.

This conclusion gives way to his moderate rationalism, according to which a proposition justified *a priori* may prove to be false. It is extraneous to my purposes to delve into the intricacies of this position. The one relevant aspect to keep in mind is that BonJour maintains that *a priori* justification is incapable of being undermined or overridden by direct experience alone. Experience, in its various sensory and intellectual forms, can merely highlight incongruities between various propositions that were previously formulated and justified in terms of *a priori* thought; revision of erroneous propositions is still an *a priori* project that is purportedly performed at a cognitive level that is wholly removed from the causal process. In this way, he maintains an essentially foundationalist epistemological outlook.

Bringing forth BonJour's belief in the distinct nature of *a priori* insight has been my sole objective in this section. In the next section, I will consider at which points within the epistemological project and regarding which types of propositions does BonJour, or any other traditionalist, appeal to the *a priori* when developing his foundationalism.

3.3

Having already considered why BonJour believes that the *a priori* is indispensable to the general epistemological task of justifying propositions, I will now illustrate BonJour's belief that the *a priori* is indispensable to the actual process of argument or inference, to his conception of *reasoning*. Aside from developing his particular brand of rationalism, one of BonJour's more general goals in this book is to highlight the necessity of the *a priori* to any epistemological project. In discussing the fundamental epistemological motivations of the rationalist as well as of the prototypical empiricist, BonJour highlights a shared concern with developing an *a priori* scheme by which to organize the knowledge claims of their particular substantive theories on the nature of reality. It is only in terms of this antecedent scheme of rules of thought that they believe they can justifiably make an initial move in developing substantive theories.

In explicating the epistemological foundationalism of the prototypical empiricist, BonJour initially grants him his fundamental premise that there may be beliefs that have purely experiential content. He has the reader suppose that there are accordingly certain 'foundational' beliefs that are fully justified by appeal to direct experience or sensory observation alone. He continues to say that, even when given such a set of base beliefs, the obvious epistemological question then becomes whether it is possible for the empiricist to infer, in a way that brings with it epistemic justification, from these foundational beliefs to beliefs whose content goes beyond direct experience. He follows this rhetorical challenge by stating that "if the conclusions of the inferences genuinely go beyond the content of direct experience, then it is impossible that those inferences could be entirely justified by appeal to that same experience" (1998, 4). In other words, it is impossible, in BonJour's view, for the empiricist to reason solely on the basis of his foundational observational beliefs to beliefs whose content goes beyond direct experience—that is, beliefs about the past, the future, and the unobserved aspects of the present; beliefs that are

general in their content; or beliefs that have to do with kinds of things that are not directly observable.

In this way, BonJour expresses the traditionalist view that an empiricist cannot secure the philosophical viability of the appeal to direct experience in terms of the appeal to experience itself. The reason that BonJour excludes such a form of circular reasoning is because it does not give an entry point to *a priori* thought. As discussed in the previous section, he believes that epistemic justification of a proposition as true is an impossible task without reliance on *a priori* thought. Thus, an empiricist concerned with justification in a manner similar to BonJour relies on the notion of the *a priori* to justify those propositions that express schematic rules of thought that guide his theoretical inferences. Even though he begins to develop his substantive theory on the nature of reality on a basis of purely empirical claims, he believes he must rely on *a priori* rules of thought in order to derive subsequent general claims. Accordingly, while the empiricist regards these subsequently arrived at beliefs as fundamentally empirical in nature, he admits that he could not have deduced them without *a priori* justified rules of thought.

BonJour portrays his rationalist epistemology as being similarly guided by foundationalist motivations concerning a scheme of *a priori* justified rules of thought. In developing his moderate rationalist position, he discusses the notion of the corrigibility of rational insight. Regarding one approach to the resulting problem of how to eliminate errors caused by mistaken rational insight, BonJour suggests appeal to coherence—that is, to the ways that propositions reflecting such apparent insights logically entail or fail to entail each other. In discussing coherence, BonJour's foundationalist stripes become evident. They are clearly evident when he states that "any conception of coherence, however restricted, will presuppose certain fundamental premises or principles that define the conception" (1998, 118). His belief that any thoroughgoing notion of coherence must rely on *a priori* rules of inference takes a fuller rhetorical form in his insistence that "there must be some epistemically relevant, *a priori* basis

for choosing one of the various ways in which some *prima facie* claims can be rejected and coherence restored as epistemically preferable to the others" (1998, 118). In light of these remarks, coherence evidently plays, in BonJour's rationalist epistemology, a role that can only be subsidiary to a set of certain incorrigible rules of thought. Indeed, the notion of coherence itself cannot be assessed on its own terms and without appeal to certain foundational rules of thought external to the notion of coherence itself. In other words, coherence's epistemological warrant must be *a priori* in nature.

Thus, given BonJour's belief in the possibility of corrigibility and reviseability of *a priori* propositions, his epistemological motivations remain traditionally foundationalist as the revision would not take place in terms of internal coherence between propositions of the substantive theory. Rather, it would take place in terms of an *a priori* scheme of rules of thought. The next section will portray traditionalist foundationalism in terms of the l.p.s. requirement.

3.4

The concern with developing such a scheme, on the part of prototypical empiricists and rationalists, is most straightforwardly characterized by the concept of linear propositional support. This normative epistemological concept requires that a claim be supported by inference from accepted premises to a conclusion and that the conclusion not appear among the premises, the premises of the premises, and so on (Gregory 1999, 68). This requirement serves to characterize traditionalist epistemologies, however rudimentarily portrayed here in terms of BonJour's presentation, as foundationalist regarding the methods to be employed in developing a substantive theory on the nature of reality—that is, what Quine generally labels as "science."

The traditionalist's commitment to the l.p.s. requirement can manifest itself in one or both of two ways in the quest for firmer ground on which to support his theory. First, the

traditionalist epistemologist may hope to provide for or discover in his substantial theory a structure that is consistent with the l.p.s. requirement (Gregory 1999, 69). This would involve positing some sort of basic empirical data or claims, as I portrayed the prototypical empiricist to be doing. While he may not consider these basic empirical claims to be justified *a priori*, what is important to setting his theory on firmer ground is that the structure be one of linear support and that the base claims be as certain or more certain—and thereby, possessing a superior position in a hierarchy of claims—than subsequent claims (Gregory 1999, 70). The prototypical empiricist characterizes their superior position in terms of how they are ordered according to his scheme of *a priori* rules of thought. This is a foundationalism concerning the scientific theory itself.

The other way in which adherence to the l.p.s. requirement can manifest itself is by understanding the traditionalist epistemologist as justifying the norms and methods of his scientific theory independently of theoretical claims. BonJour's own epistemological project, as it concerns developing an *a priori* epistemological warrant for coherence, fulfills the l.p.s. requirement in this second way. This way does not directly concern particular theoretical claims but rather the *a priori* scheme that justifies the norm of coherence. Coherence is an epistemological norm peculiar to a so-called moderate rationalist such as BonJour. However, I regard coherence as any other epistemological norm that a rationalist may hold, in that it requires an *a priori* warrant. This is a foundationalism concerning the norms and methods of the scientific theory.

Taking the l.p.s. requirement as fundamental in either of these two ways turns the drive for firmer ground for one's beliefs into a drive for independent ground (Gregory 1999, 69)—that is, ground that is separate from an actual substantive theory of the world. In this sense, the traditionalist's epistemological project is logically prior to the substantive theory in terms of its concern with *a priori* rules of thought. As such, we can group together the traditional empiricist and the traditional rationalist under the same foundationalist banner in terms of their adherence

to the l.p.s. requirement and reliance on the *a priori*, regardless of the slight variations of reliance.

Both ways of fulfilling the l.p.s. requirement serve to characterize foundationalist projects as being guided by a desire to confer on certain base epistemological principles a more certain status analogous to those areas of knowledge that have displayed security in beliefs. Historically, the longevity of our empirical beliefs pales in comparison to that of supposedly non-empirical branches of knowledge such as mathematics, geometry, and logic (Gregory 1999, 70). Since our sciences apparently do not yield a structure with an analogous degree of certainty, the traditionalist wants to show that at least the foundational claims of science are similarly justified in terms of the l.p.s. requirement. Furthermore, he views mathematics, geometry, and logic as wholly detached from and antecedent to the process of developing a substantive theory of the world. As such, he views these areas as exemplars of the structure of knowledge and as sources of independent ground for the justification of science.

Furthermore, the traditionalist is interested in a structure of linear support in part because of the perceived gains in normative force. Normative conclusions, from the traditionalist's point of view, can only be drawn from sources independent of an actual working theory of science, which he views as a purely descriptive project. Thus, if an epistemologist flouts satisfaction of the l.p.s. requirement by advocating a circular structure, he appears to the traditionalist as cut off from any source of certainty and of normative force. If we consider science, in keeping with the traditionalists' view, to be a purely descriptive enterprise, then epistemology, if it is to be normative, must be distinct, drawing on independent sources (Gregory 1999, 73). Both concern over circularity and concern over normativity tend to induce a sharp separation between epistemology and science. Clearly, this is not only a question of structure, but also of normativity. It is not an arbitrary preference for linear support that drives the traditionalist. If

the traditionalist epistemologist flouts the l.p.s. requirement, he believes that he has cut himself off from any source of normative force (Gregory 1999, 71).

The identification of these concerns anticipates next chapter's discussion of specific points of departure of Quine's naturalized epistemology from traditional epistemology. The particular issue of circularity and the resulting problems over the traditional construal of the issues of normativity and justification will be discussed in greater detail in terms of how they are dealt with by Quine in terms of his view of language. I will initially characterize Quine's acceptance of circularity in terms of his rejection of the l.p.s. requirement, which is the topic of the next section.[3]

3.5

Quine's defiance of the l.p.s. requirement can be most directly characterized in terms of his concept of reciprocal containment—that is, the concept that epistemology is contained within science and vice versa. It is in terms of this concept that Quine redefines the nature of the epistemological project. As illustrated in the previous section, when the l.p.s. requirement is taken as fundamental, epistemology must begin with the suspension or shedding of antecedent empirical and theoretical beliefs. Furthermore, neutrality concerning the practice and claims of

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[3] At this point, it is significant to briefly and generally note that Quine's epistemology differs not only from that of the classical empiricist but also from the twentieth-century moderate empiricist. The more general reading of "Two Dogmas" that I gave in Chapter 2 reveals Quine to be distancing his naturalized epistemology from traditional epistemology. When considered in terms of its immediate historical context and in connection with some of his other articles, that article reveals that Quine was illustrating how his differs from the moderate empiricist epistemology of the some logical positivists, not merely the epistemology of the prototypical classical empiricist. Some left-wing members of the Vienna Circle—namely, Schlick, Neurath, and, most notably, Carnap—relegated the *a priori* to a relativized role in attempting to preserve the epistemological value of this notion—that is, they attempted to characterize the *a priori* as solely dependent on linguistic convention and, as such, without invoking anything like rational intuition when appealing to it. "Two Dogmas" highlights how the moderate empiricists's dependence upon a relativized notion of the *a priori* still fundamentally reveals a commitment to the l.p.s. requirement. This article exposes the self-defeating premises in such positions. More specifically, continued epistemological reliance upon apriority and linear propositional support is incompatible with the deflationary attitude they adopted toward the analytic/synthetic distinction. This more specific issue aside, what I intend to reveal is how Quine's naturalized epistemology constitutes a rejection of the broader historical reliance on the *a priori*, as evident in the epistemology of the classical empiricist as well as that of the rationalist.

science must be maintained until a supporting structure of linear reference can be constructed from basic starting points (Gregory 1999, 76). Quine puts forth reciprocal containment upon the realization that we cannot fully dissociate ourselves from what is under scientific scrutiny—namely, the inductive process itself, as this realization follows from his repudiation of the language/theory dichotomy. The next chapter will consider in greater detail the nature of this realization and how it entails the redefinition of the epistemological project in terms of the concept of reciprocal containment. Before this discussion is to take place, it is important to come clear on the ultimate implications of the view of epistemology/methodology of science that Quine is developing.

Strictly in terms of the repudiation of the l.p.s. requirement, we should begin to understand Quine's epistemological project as attempting to provide a firmer ground for science to tread not in terms of a move to independent ground but rather in terms of coming clear on the nature of hypothesis forming and testing that occurs within science itself. The *a priori* scheme, which represents the traditionalist epistemological purpose, is now to be metaphorically sought within the global structure of science. However, given the nature of hypothesis forming, the scheme is reinterpreted in a way as being susceptible to revision. This perpetually open possibility of revision prevents a linear ordering of hypotheses. As such, this scheme can no longer be portrayed in terms of the l.p.s. requirement.

Local reasoning may still display linear propositional development. However, the global structure of our science cannot be pre-determined in terms of such an unyielding structure. There is no longer a concern with developing ultimate premises. Absent in Quine's account of epistemology is a hierarchy of propositions justified in varying degrees, based on their distance from and logical relation to the ultimate premises. As such, all theoretical statements must be regarded in the same tentative, but ultimately realistic, way. For Quine, there do not exist particular occasions for talk of justification, as BonJour understands this notion in terms of

occasions for *a priori* thought. The natural epistemologist, while recognizing that some unidentified portions are wrong, tentatively believes all of his inherited world theory. Truth retains its established use as the goal of the natural epistemologist, yet he acquiesces in it just as a vivid metaphor for our continued adjustment of our world picture to collective sensory intake.

It is interesting to note that both BonJour and Quine acknowledge the fallibility of the human intellect and the need to leave open the possibility of the revision of our most central theoretical claims. What I intend to gradually and ultimately reveal is that, in light of Quine's account, BonJour's continued acceptance of age-old philosophical distinctions, such as the *a priori/a posteriori* and the necessary/contingent distinctions, appears metaphysically excessive and the cause of confusion over the epistemological project. Reciprocal containment of epistemology within science entails the rejection of these false dichotomies as they are rendered peculiar only to the epistemological project when construed as independent of science. The entailed rejection of the l.p.s. requirement and the recognition that we begin epistemology from within an inherited on-going world theory do not automatically place the natural epistemologist in a skeptical position. Quine's epistemological naturalism harbors no scruples regarding this circularity. He is seeking a simplified, more direct understanding of the scientific process so as to allow us to more clearly see what is at stake in our investigation of the world: the extent to which our attitude toward the external world is realistic.

4. Normativity and Justification

4.1

Quine's view of language as outlined in Chapter 2 re-defines the epistemic place of the human knower in the world. As a result of his repudiation of the language/theory dichotomy, we can no longer conceive of the knower as able to use language to express the workings of a pure, isolated intellect. This in effect amounts to a rejection of the possibility of *a priori* insight. Furthermore, theorizing is now seen primarily, not as a process of juggling propositions whose meaningfulness is independent of our contact with the world, but as a process of adapting language and theory to best facilitate interaction with the environment (Gregory 1999, 114). Language and theory together form an adaptive tool that properly accounts for the human subject's biological presence in the world as well as his necessary reliance on intersubjective checkpoints and rudimentary empirical beliefs in meaningful linguistic expression. This is the general view that constitutes Quine's metaphorical web of belief, the concept that I will in this chapter explicate in detail.

In Section 4.2, I will consider BonJour's arguments aimed directly at naturalized epistemology and his assertion that repudiation of *a priori* justification is "tantamount to the repudiation of argument or reasoning generally, thus amounting in effect to intellectual suicide" (1998, 5). I will go on in Section 4.3 to offer a Quinean counter to his arguments. In Section 4.4, I will identify how normative considerations are inextricably tied up with the process of formulating and testing hypotheses, a process that is fundamental to Quine's understanding of science. Finally, in Section 4.5, I will identify normativity and justification as points of departure of Quine's naturalized account of epistemology from traditionalist accounts in terms of his redefinition of each notion in light of his rejection of the l.p.s. requirement.

4.2

The singular source for BonJour's discomfort with Quine's rejection of the *a priori* in "Two Dogmas" by repudiation of the language/theory dichotomy is that Quine makes no explicit mention of justification in that article. BonJour sees no way by which to re-orient Quine's arguments to directly touch upon this issue, which, to reiterate the general conclusion of Chapter 3, he considers necessary to any epistemological undertaking. The fact that for Quine there does not arise particular occasions for certain justification of statements is the reason that BonJour's arguments ultimately fail in displacing the naturalist from his position, as developed in terms of an utterly different understanding of the epistemological project.

In attempting to discover a way in which Quine's arguments in "Two Dogmas" relate to justification, BonJour focuses in on the following phrases: "Any statement can be held true come what may, if we make drastic enough adjustments elsewhere in the system...Conversely, by the same token, no statement is immune to revision" (Quine 1980, 43). BonJour discerns from this the belief that "any sentence may be given up *without having changed in meaning*" (1998, 74). He goes on to acknowledge that, in light of his repudiation of the notion of meaning, Quine would also repudiate putting the matter in this way. There is something very much like a notion of meaning in Quine's account. However, it is of a nature that BonJour utterly fails to understand, and as a result, he fails to displace the naturalist from his position.

More specifically, what BonJour misunderstands is Quine's metaphor of the web of belief. This metaphor is born out of his holism, and it entails the fundamental belief that the revisions prompted by recalcitrant experience need not be confined to the observational periphery—that is, the demands of experience can equally well be satisfied by revisions in the ostensibly non-observational interior, so that there can be no experiential test of a single sentence in isolation. In light of this belief, it appears to BonJour that all of a science's statements—

namely, peripheral observational statements and interior theoretical statements—do not relate to each other in terms of deductive logical connections. As such, BonJour believes that the natural epistemologist must assume that "*epistemic rationality is concerned solely with adjusting one's beliefs to experience*: for without such an assumption it remains possible that a particular revision, though adequate to satisfy the demands of experience, is ruled out for some other, non-experiential reason" (1998, 76). In other words, he views naturalized epistemology as rendering all of the claims of a substantive theory as free-floating in that they lack any distinct meaning or logical connection with other claims. He reaches this particular conclusion because, in Quine's account, there is no discernable *a priori* scheme by which to meaningfully organize knowledge claims in a way that gives them linear propositional support.

The general conclusion of Chapter 3 was that, in BonJour's view, the purpose of epistemology is the development of such an *a priori* scheme in the fulfillment of the l.p.s. requirement. In terms of this understanding of epistemology, BonJour feels that certain non-experiential considerations must govern the process of ordering and revising particular statements of the substantive theory. When considering Quine's web of belief from the traditionalist perspective, a problematic situation arises in which a "set of sentences can only be incompatible and hence in need of revision by virtue of some still further sentence, and so on, thus generating an infinite demand for further sentences if the incompatibility is to be genuine" (1998, 94). He sums up the point of his discussion regarding the nature of the relations between statements in Quine's web of belief in the following way:

> There is nothing about the sentences *P*, *not-P*, and *PNC*, taken by themselves, that makes them incompatible or demanding of revision. Thus, a genuine incompatibility requires at least that the system contain a further sentence, *MPNC* (a meta-principle of non-contradiction), that says explicitly that the other three sentences are incompatible. And now the problem repeats itself: for *P*, *not-P*, and *PNC*, and *MPNC* to be incompatible will require a further sentence *MMPNC*, etc. (1998, 95).

To these statements he adds that eventually the further sentence will never truly be present because, given Quine's repudiation of the notion of *a priori* insight, there cannot exist a certain principle of appeal by which to actually render them incompatible and, thereby, end the regress. In this sense, what we have, according to BonJour is just a bundle of sentences that turn out incapable of connecting themselves. The web of belief metaphor seems inappropriate because without *a priori* justified principles of reasoning it appears we do not have any justifiable beliefs.

In the conclusion of his chapter that deals directly with naturalized epistemology, BonJour asserts that Quine's case comes to nothing because it cannot render any of our beliefs as justified. BonJour's conclusion that his epistemological view remains valid in light of the apparent failure of naturalized epistemology to address justification without appeal to *a priori* insight reveals that he does not realize the extent to which Quine challenges traditionalist foundationalism. BonJour's insistence on the validity of his view sets up a false dichotomy: one between his epistemology which accounts for justification and Quine's epistemology which cannot account for justification of any belief. Simply because BonJour identifies what he believes to be a shortcoming in Quine's view does not logically guarantee the validity of his view. This blatant fallacy further leads us to the realization that BonJour fails to recognize that Quine, in rejecting the *a priori*, also develops a radically different understanding of "justification."

Quine's epistemology is indeed concerned with making one's body of inherited science more directly responsible to direct empirical experience. BonJour is, in a certain limited sense, correct in highlighting this assumption underlying naturalized epistemology. However, BonJour is too quick to dismiss Quine's case against the *a priori* because he does not directly address the issue of justification, on the terms of the traditionalist.

The next section is concerned with the process by which we, according to Quine, develop our scientific web of belief. In countering BonJour's argument, a discussion of this process will

ultimately reveal the our scientific claims along with the normative considerations by which we test them can be justified, not certainly and necessarily, but tentatively and hypothetically in terms of the ability of our science to accurately predict future events. In the web of belief, there is no justificatory appeal to higher level principles: the focus is always on how hypotheses relate to experience. BonJour's claim that the repudiation of *a priori* justification amounts to the repudiation of reasoning is rendered insubstantial in light of a proper understanding of the metaphor of the web of belief, as it maintains truth as the metaphorical goal of science. Naturalized epistemology, in virtue of the fact that it is concerned with truthfulness, must be viewed as a viable theory of knowledge.

4.3

In his article "The Nature of Natural Knowledge," Quine explains how, in his epistemological view, we move from talking in terms of observational sentences to theoretical sentences from a base of sensory experience and intersubjectively-checked similarity standards. The aim in this section of the essay is to explicate Quine's metaphor of the web of belief as it expresses his view of science as a linguistic structure comprised of theoretical and observational sentences, which is a coherent structure yet one ever open to revision directly in terms of recalcitrant experience. In understanding this metaphor, the epistemological focus is to clarify the human knower's biological presence in the world and, in light of this clarification, to better understand science as a tool to be used to interact with the environment.

Quine characterizes science as keyed in to sensory observation in terms of its observation sentences. He notes that one distinctive trait of such a sentence is that its truth-value varies with the circumstances prevailing at the time of its utterance. As such, an observation sentence is an "occasion sentence whose occasion is not only intersubjectively observable but is generally

adequate, moreover, to elicit assent to the sentence from any present witness" (1975, 73). Naturally, sameness of occasion cannot be related in terms of shared stimulations. Rather, judgments of sameness of occasion are made by projecting oneself into the position of the other witnesses (Gregory 1999, 20). This projection is possible because of innate similarity standards that we share in virtue of our similar human biological presence in the world. As Quine notes, we predict in light of observed uniformities, and these are uniformities highlighted by our subjective similarity standards (1975, 70). In other words, we intersubjectively check these similarity standards in terms of evidently shared expectations of future events in a common environment. These similarity standards are indispensable to science as the "entering wedge"—that is, without a common biology, we would not individually process experience in similar ways and, therefore, would not be able to produce the theoretical construct of science, in which we pool and express our collective experience. This key notion will be further elaborated on in Section 4.4 in a discussion of Quine's view of the intersubjectively established basis of epistemic normativity.

This observational part of language is linked only "tenuously and conjecturally" to the ostensibly non-observational theoretical part. This link is conveyed by the notion of universal observation categoricals. These categoricals can be said to take the form "An *S* is a *P* in general." Quine offers a simple example of universal categorical construction. He asks us to imagine a child who has learned to assent to the observation term "a dog" when it is queried in the presence of dogs, and he has learned to assent to "an animal" likewise when it is queried in the conspicuous presence of dogs (though not only dogs). Based on the hypothesis that a dog might be an animal, the child rises to a mastery of the universal categorical construction by deducing the observation categorical "A dog is an animal in general." It is significant to note that the hypotheses that the child is working with cannot be deduced from observations—namely, there is nothing beyond our inductive experience of dogs and animals by which we can

secure the essential meaning of the terms "dog" and "animal." However, the observation categorical is logically deduced from the hypotheses. The child has in this way made "credible progress from observation sentences toward theoretical language, by mastering predication and the universal categorical construction" (Quine 1975, 76). As a consequence of the hypothesis, the observation categorical implied by the theory dictates the child's expectations in future observational situations, thereby forging the connection between observation and theory.

To continue further with this example, the child tentatively believes his hypothesis "A dog is an animal," as framed in the form of a universal categorical, until he may observe a dog that is not an animal—that is, until he may instantiate the antecedent and the consequent should fail to come about, when by modus tollens he would naturally reject the conjunction of the hypothesis.[4] Humankind's collective experience of all dogs as being animals makes refutation of this hypothesis highly unlikely. However, the principle involved here, far from being self-evident, does not always lead to true generalizations. Quine quips that it would have let us down if we had inferred from a hundred observations of swans that all swans are white (1978, 65). The significant point to note from this discussion that mimics the development of science in terms of a child's acquisition of language is this: hypothesis in general, when framed in the terms of a universal categorical, gives nothing further in positive justification than its successful prediction. There is a sense in which the logical relations between sensory evidence and theory is entirely negative—observations can only refute, not confirm theory (Gregory 1999, 104). In Quine's view, there can be nothing like a certain justification of the belief that a dog is an animal. Inductive uncertainty is ever unavoidable.

In this way, Quine calls on us recognize that the dominant factor, in solid science as well as in daily life, is hypothesis. It is the part of scientific rigor to recognize hypothesis as

[4] Despite this child's general ignorance of the world, we must accept, for the sake of mimicking the abstract process of the development of science in terms of the more tangible hypothetical example of a child's acquisition of language, that he has a command of how to apply first-order logical rules.

hypothesis and then to make the most of it (1978, 65). Calling a belief a hypothesis says nothing as to what the belief is about, how firmly it is held, or how well founded it is. Quine adds that "calling it a hypothesis suggests rather what sort of reason we have for adopting or entertaining it" (1978, 66). This approach differs decidedly from BonJour's in which the epistemologist, rather than merely setting up hypotheses for testing, attempts to justify them with absolute certainty in terms of *a priori* insight, or at least justify with certainty the scheme of thought according to which they are arranged within a body of science. Within Quine's web of belief, schematization occurs in terms of the logic of testing that is built into the scientific theory that we inherit, like the child inherits language generally. There is no justificatory appeal to anything beyond the bounds of the process of hypothesis forming and testing of universal categoricals—that is, there is no appeal to any cognitive process beyond the bounds of the web of belief. It is in this way that Quine's rejection of the *a priori* entails the rejection of BonJour's notion of justification and identifies empirical testing as the ultimate boundary of the web of belief.

Having put aside *a priori* appeals in terms of his rejection of the language/theory dichotomy, Quine feels that we can more clearly understand why we hold certain of our hypothetical beliefs to be true. In this sense, theory development and revision is constrained by the nature of the hypotheses that we inherit as part of the on-going scientific enterprise. The purpose of naturalized epistemology emerges as the development of an "explanatory understanding of theory development and normative recommendations for the use and modification of current practices as well as the development of new practices" (Gregory 1999, 106). The next section will further discuss how Quine's account portrays epistemology, as well as the science that it clarifies, as a normative undertaking. This discussion will directly lead to the identification of normativity and justification as Quine's points of departure from traditionalist accounts.

4.4

In "The Nature of Natural Knowledge," Quine importantly goes on to point out that the relationship between observation sentences and theoretical sentences is "not a continuous derivation, which, followed backward would enable us to reduce scientific theory to sheer observation" (1975, 78). This is the overly simplistic view that BonJour apparently holds, as revealed in his characterization of naturalist epistemic normativity as concerned solely with adjusting one's beliefs to experience. While Quine's epistemological project is intent on more directly characterizing the relationship between science and experience, he does indeed have a rigorous notion of epistemic rationality despite the lack of extra-scientific, or meta-theoretical, appeals in his epistemology. This notion becomes evident in terms of a discussion of the normative considerations that guide the natural epistemologist.

Regarding the manner in which we develop observational categoricals out of observation sentences, Quine states that "it is a progress by short leaps of analogy" (1975, 78). Once the abstract level of theoretical observational categorical is reached, logical quantification explicitly determines how we proceed, as illustrated in the previous section. This logic of testing can be seemingly separated out and pursued with minimal reliance on the particular science. It is the radically unconstrained process by which we develop hypotheses out of observation sentences and force them into the form observational categoricals where normative considerations enter the on-going scientific project. It is the purpose of naturalized epistemology to bring us to a clearer understanding of what considerations should guide the hypothesis forming process.

In elaborating in *Web of Belief* on this application of analogy, Quine defines analogy as an "inferential leap, whereof the top of the trajectory is a slurred-over induction" (1978, 95). Analogy is the leap from particular experiences to particular expectations. By analogy, we frame general expectations for the future in terms of past experiences. For example, the direct relation

between our observation of the redness of past boiled lobsters and our expectation of redness of the next victim is a relation of analogy; the name of induction can be reserved for our generalization that all boiled lobsters are red. The reason that we must leave open to revision theoretical sentences drawn by analogy from observational ones is the "sober fact that we cannot expect every trait shared by past cases to carry forward to future cases" (1978, 86). Indeed, in light of this process, theory is "empirically under-determined." Quine comments that "this seems clear in view of the tenuousness of the connection between observation sentences and theoretical ones," even though theoretical sentences are directly related to each other by deductive logical relations. This is the positive side of the relationship between observation and theory—positive not in the logically supportive sense that observation confirms or justifies theoretic generalizations, but positive in the creative sense that it is somehow from the basis of sensory input that we generate hypotheses and expectations (Gregory 1999, 35).

As Quine notes, the use of analogy depends on a prior tendency to notice certain traits and so to single them out for projection rather than others. As such, the question of what traits are projectible, then, can be put as simply: "What counts as similarity?" (1978, 87). The answer to this question entails the extra-logical normative aspect of naturalized epistemology. In the attempt to answer this question, we link up our understanding of the human knower with evolutionary history. We explain, as Quine points out in *Web of Belief*, the "innate sensitivity to certain traits, and insensitivity to others, will have survival value insofar as the traits that are favored are favorable to prediction" (1978, 88).

It is significant to note that in answering the question regarding similarity, we are also answering the question "Why is science so successful?," as posed in "The Nature of Natural Knowledge" (1975, 70). At the everyday observational level, our unsophisticated similarity standards of common sense remain in force. Yet, these standards undergo revision through learning and, more specifically, through the improvement of science. In recent centuries, this

refinement has consisted in the "development of a vast and bewildering growth of conceptual or linguistic apparatus, the whole of science" (1975, 71). Furthermore, the steps by which the child was seen to progress by quantifying observation sentences in the form of theoretical observational categoricals has the "arbitrary character of historical accident and cultural heritage; there was no hint of inevitability" (1975, 80). Science revises and augments our basic human similarity functions. The purpose of naturalized epistemology is to bring the human knower to terms with the radical freedom involved in how science assumes a coherent theoretical form even though it is built wholly upon induction. It is a normative undertaking in terms of how it deals with the radical empirical under-determination of our theories on the nature of the external world and our relation to that world.

This is the notion that Quine is expressing when he concludes "The Nature of Natural Knowledge with the following: "In the midst of all this formless freedom for variation, our science has developed in such a way as to maintain always a manageably narrow spectrum of visible alternatives among which to choose when need arises to revise a theory" (1975, 81). Quine identifies his epistemological virtues specifically as conservatism, modesty, simplicity, generality, and refutability. They are understood to emerge out of the hypotheses-forming process under consideration. While space limitations do not here allow for an in-depth consideration of each virtue, it is important to note that Quine does not maintain that they all must be fulfilled to a certain degree in each particular case of hypothesis formation. Indeed, they themselves are hypothetical; they cannot be otherwise as naturalized epistemology reveals that we can do no more than demonstrate high probability of any belief. On this point, Quine is by no means concerned with developing *a priori* epistemological warrants for particular norms, unlike we understood BonJour to be in Section 3.4. Furthermore, Quine's epistemological virtues conflict on occasion. What distinguishes them is their generality. In virtue of their generality, they can be applied to other more particular hypotheses and, in this way, can be

understood as guiding as they supervene from the process of revision of old methods and development of new methods.

4.5

For the traditionalist, science is a purely descriptive enterprise, and normative considerations are solely expressed in the antecedent epistemological project. By applying normative considerations directly within the scientific project—that is, within the bounds of the web of belief—Quine has rendered normativity in a radically different light. His reinterpretation of this notion constitutes a crucial point of departure from traditionalist epistemology.

This reinterpretation serves to reveal the human subject's fundamental intellectual embeddedness in the natural world. In Chapter 2, the discussion was focused on illustrating Quine's repudiation of the language/theory dichotomy. In light of this repudiation, we can now fully understand his notion of the reciprocal containment of epistemology within science and vice-versa. In keeping with traditionalist epistemological accounts, naturalized epistemology still generally characterizes its purpose as clarifying the workings of a substantive theory on the nature of the world. However, unlike traditionalist interpretations, it achieves this purpose in terms of the actual methods at work in the theory—that is, not in terms of *a priori* justified conceptual scheme that orders the claims of the substantive theory. Quine has identified the origin of what BonJour would refer to as *a priori* intuitions to notions particular to science itself and that emerge within the process of testing hypotheses. This reference to intuition brings us to the related point of departure: justification.

The fact that in Quine's web of belief there is no such thing as an intuitive justification of hypotheses identifies the traditionalist notion of justification as the other significant point of departure of naturalized from traditionalist epistemology. For Quine, this is so because "where

an intuition has anything at all to be said for it, it has something making no mention of intuition to be said for it: sensory clues that may not have registered as such, long forgotten beliefs, analogies more or less vague" (1978, 92). The belief in the *prima facie* distinct aspect of the *a priori* justifying thought, which BonJour is at pains to meaningfully characterize in his book, appears to stem in confusion over the actual origin of our beliefs. Beliefs, instead of appearing as claims to be justified intuitively or in relation to other such justified claims, are interpreted by Quine as hypotheses to be tested by the various highly useful methods that science offers. In Quine's view, uncovering this basis of belief without appeal to intuition allows us to more lucidly evaluate the belief. Sections 4.3 and 4.4 demonstrate that epistemology need not rely on the *a priori/a posteriori* and related necessary/contingent distinctions. Furthermore, such reliance is now understood as moving attention away from what is actually at stake in our scientific theories, which once again is: the extent to which our attitude toward the external world is realistic. This is the ultimate conclusion of Quine's that I first identified in Chapter 1 and mentioned in Section 3.4. It is the basis of his scientific realism.

While successful prediction may increase our confidence in a set of hypotheses, it is important to note that this does not constitute any confirmation or verification of the set of implying hypotheses (Gregory 1999, 103). In light of empirical under-determination, justification is now generally the degree to which our hypotheses accurately predict the future. Predictive success is, in this light, revealed as the terminal parameter of science and, indeed, all of our intellectual undertakings. Furthermore, predictive success is the source of our robust realist feeling about the nature of the external world.

It is in terms of this understanding of predictive success, as it arises within the actual practice of science, that leads me to consideration of a naturalized account of rationality, the topic of my next and concluding chapter.

5. Rationality Naturalized

"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." (italics mine)

"Two Dogmas of Empiricism"

What underlies the effort of this entire essay is the aim of showing that the notion of rationality in Quine's account is open to a different characterization than the one in BonJour's account, or perhaps the traditionalist account of epistemology in general. Quine writes that the "ultimate evidence that our whole system of beliefs has to answer up to consists strictly of our own direct observations—including our observations of our notes and other people's reports" (1978, 21). In maintaining that we can look no deeper than observation and in bypassing BonJour's intuitive justificatory enterprise, Quine is actually opening up the notion of rationality to a much broader, more dynamic, and perhaps more elusive interpretation. In tying together the conclusions of the previous chapters, I will provide in this chapter a sketch of a naturalized account of rationality. This sketch is by no means to be taken as a definitive characterization of rationality in naturalistic terms. Indeed, it will merely reveal that rationality is open to a much broader interpretation than suggested by BonJour's traditionalist account. In virtue of portraying the notion of rationality as open to further elaboration, the sketch itself will represent the actual conclusion on this issue that we should understand Quine to be drawing.

Based on BonJour's insistence that the repudiation of *a priori* justification is tantamount to the repudiation of reasoning generally, we can conclude with a fair degree of assurance that rationality, in his view, fundamentally amounts to the development of an *a priori* justified scheme for ordering our substantive theoretical beliefs. Again, this is what defines his epistemological project. All subsequent intellectual moves are assessed in terms of how they fit

within this scheme. Of course, BonJour does acknowledge that the fallible nature of human thought may cause inconsistencies and inadequacies in this scheme itself. By maintaining that revisions of this scheme are to be conducted in terms of *a priori* thought, he assumes a meta-philosophical position that is itself still characterized essentially by apriority. In illustration of how he purports to justify his overall project, he writes in his preface:

> My conviction is that philosophy is *a priori* if it is anything; and that the practice of even those who must explicitly reject the idea of substantive *a priori* justification inevitably involves tacit appeal to insights and modes of reasoning that can only be understood as *a priori* in character, if they are justified at all. (1998, xi)

He goes on to admit that the defense and explication of his rationalism is an on-going project. Yet, we can only imagine that any extension of this project will proceed once again with primary emphasis on highlighting his belief in the irreducibility of *a priori* thought, the belief in the *prima facie* distinct nature of the justifying thought. BonJour's interpretation of rationality appears static in that all claims to rationality will be justified in terms of an appeal to some cognitive process that is allegedly irreducible. Given his insistence on irreducibility, the impression we receive is that nothing more can be said about apriority, and this renders BonJour's notion of rationality to be inert and unchanging.

In contrast, by revealing all of our beliefs to be hypothetical in origin, Quine is actually suggesting a dynamic interpretation of rationality, an interpretation that is ever open to further clarification of the reasons why we hold them to be true and to consideration of further justifying evidence. Given this interpretation, reliance on intuition reveals a lack of reasoned support, as it prevents us from understanding the fundamental nature of all of our beliefs as hypothetical. BonJour's admittance of the fallibility of human thought appears, in this light, to be a sort of concession to the naturalist in that alleged intuitive insight into the metaphysically necessary nature of reality may subsequently turn out not to be necessary at all.

Perhaps a good way to begin a discussion introducing the wholly different understanding of rationality that arises out of Quine' account is to consider the question "Is there an external world?" In discussing Quine's views, I have deliberately excluded explicit consideration of this question, as it does not arise when doing naturalized epistemology. The point of Quine's epistemology, as explicitly stated in Chapter 4 in terms of a discussion of the metaphor of the web of belief, is that we are always within a system of the world. Given this fundamental characteristic of Quine's philosophical position, we conclude that, in his view, there are no different senses of being or reality; there is a single univocal notion. Furthermore, there is no convergence of normative epistemology with descriptive science. In the aftermath of Quine's repudiation of the language/theory dichotomy, there is "no neutral or presuppositionless position from which we can make judgments about the world and our theory of it: all of our judgments must be evaluated as being part of a substantive theory of the world" (Hylton 1994, 265). The question "Is there an external world?" is dismissed as it conceivably arises only apart from science, never from within the practice of science.

Nevertheless, the question is still posed. Once we may begin to argue against the coherence of the position from which it is posed, it is almost too late to deny that there is any sense to the notion of our inescapable intellectual embeddedness in a particular scientific theory, or, more specifically, of the concept of reciprocal containment. We may ask ourselves: if there is no sense to the question, how can we be arguing against it? This second-guessing of the naturalist position is what Quine wants to prevent. Considering the question "Is there an external world?" entails developing an agnostic position and evaluating various different accounts of realism. It is a crucial fact that Quine himself does not contrast his realism with another (Hylton 1994, 264).

In "The Nature of Natural Knowledge" when asking "If two theories conform to the same totality of possible observations, in what sense are they two?," he comes close to doing

something like contrasting different brands of realism. However, he poses the question only to reject it outright. As a basic hypothetical example, he offers that two theories are stated in English and are alike word for word, except that one of them calls molecules electrons and electrons molecules. He concludes by stating that the difference is terminological rather than real, and the "reason is that we see how to bring the theories into agreement by translation: by re-construing the English of one of the theories" (1975, 80). This conclusion is based on his belief that "there is no meaning but empirical meaning, and theories with the same meaning must be seen as translations one of the other" (1975, 80). Chapter 2 serves this conclusion in that it outlines how all language use entails a basic yet substantial commitment to certain rudimentary beliefs. Chapter 4 reveals that without this basis more abstract, theoretical sentences—i.e. observation categoricals—could not meaningfully take form. That any and all theory arises out of an empirical source is the conclusion that Quine is seeking to develop in portraying the limits of the metaphorical web of belief in which meaningful consideration of belief can occur.

Quine goes on to note in this article that, in maintaining empirical meaning to be the only existing standard of meaning, he might appear to be ruling out the doctrine that physical theory, as characterized in Section 4.4, is under-determined. He suggests that where the significant difference comes is perhaps where we no longer see how to state rules of translation that would bring the two empirically equivalent theories together. In following up on this suggestion, he states:

> Terminology aside, what wants recognizing is that a physical theory of radically different form than ours, with nothing even recognizably similar to our quantification or objective reference, might still be empirically equivalent to ours, in the sense of predicting the same episodes of sensory bombardment on the strength of the same past episodes (1975, 81).

Diverging theories are, in this sense, empirically equivalent in that they both entail a process of hypothesis formation and test conducted by its scientific practitioner with the recognition that the inductive processes of the world are inescapable. Furthermore, they are both expressed in a

language that is intersubjectively checked and supported by a base of rudimentary empirical beliefs, although this is a language that arises out of a wholly different set of such particular beliefs than ours. Indeed, in Quine's view, there is no other way in which to conceive of the scientific project aside from these general considerations. Characterizing the epistemological project as part of the scientific study of induction is the most sweeping general conclusion that Quine makes. It is primarily in terms of this conclusion that Quine opens up rationality to a different construal than traditionalist epistemological accounts allow.

According to Quine, the natural scientist has never felt any qualms about reality beyond the negotiable uncertainties internal to science. As science is ever intent on giving a robust characterization to reality without ever questioning the existence of the external world, reason is ever intent on the truthfulness of our representation of the external world. As such, we can see Quine as offering a different understanding of rationality in the way that he remains intent on the notion of truth while focusing the epistemological project on the hypothetical nature of our beliefs. It is therefore the task of reason to qualify this robust state of mind regarding the nature of reality, to assist in developing systematic scientific theory in the face of empirical under-determination.

More specifically, Quine is concerned with rationality to the extent that it can be said to describe the intellectual feat of manageably narrowing the spectrum of visible alternatives among which to choose for revision of theories. He continues in "The Nature of Natural Knowledge" that it is this rational constriction of the scientific project, what he metaphorically calls "tunnel vision," that makes for the continuity of science in the face of the refutation and correction of particular theoretical sentences. This rational constriction is effected in terms of how the scientist secures the continuity of his theory even though it emerges out of uncertain inductive processes of the world. As such, Quine's reinterpretation of rationality can be understood in terms of extending the domain of reason indefinitely, instead of limiting it to irreducible

thoughts. This is true because of how reason is applied in shaping the endless scientific project. Quine's concluding statement of "Two Dogmas" suggests that rationality consists in our ability to intellectually control the process by which we further science.

Furthermore, as our current scientific methods are continually improving and new methods are being developed, reason also is to evolve in parallel fashion if scientific progress is to accrue on and develop continuously from past theorizing. Given this concern with how the scientific project is rationally focused in terms of its historical record, it is significant to realize that Quine is not suggesting a merely instrumental understanding of rationality.

An instrumental interpretation would portray the epistemological virtues touched upon in Section 4.4 as nothing more than consistency demands. Such an interpretation is what prompts BonJour to consider an externalist interpretation of Quine's epistemology. Briefly, this interpretation entails the notion that epistemic justification or warrant need not involve the possession by the believer of anything like a reason for thinking that his belief is true. This constitutes an attempt made to suggest that Quine's epistemology cannot reveal any beliefs to be true and, in this sense, unable of justifying its overall purpose. Such an attempt apparently entails an extra-scientific and theory-neutral position. The reason that Quine's naturalism seems to him too obvious to admit of an over-arching justification of itself is that all doubts regarding the truthfulness of our science arise and are to be resolved only from within science itself.

There is no meta-philosophical position from which Quine externally considers his naturalism, just as he does not consider competing versions of realism against each other. In developing naturalized epistemology, he presents what is simply the philosophical position that we automatically are born into in virtue of inheriting a language. Simply put, there is no alternative position. Similarly, the nature of scientific project is to be understood in terms of its status as cultural inheritance. The questioning of whether this theoretical body adequately captures a robust realism is to be rendered meaningful and, indeed, rational, only when it

conducted from within science itself. Once again, I am expressing this conclusion as an elaboration on what Quine's repudiation of the language/theory dichotomy entails.

In this way, naturalized epistemology is concerned with putting the human subject to terms with the radical freedom involved in the process of developing and testing hypotheses and of making revisions upon failed predictive tests. It is in this open domain that normative considerations operate. The normative questioning process that occurs within this domain, along with the logically constrained one of refutation of observation categoricals, defines naturalized reason, a definition that must always be renewed and adjusted as we develop and modify our science.

BonJour's fallacy, as identified in Section 4.2, serves to characterize the situation between him and Quine as one of talking past each other. There is no bridge between their two philosophical worlds. Recall that BonJour admits that Quine's epistemological system is not susceptible to piecemeal refutation. This admission, when coupled with the fact that Quine, given the nature of naturalist position, must refuse to make a move of comparison of his system with another, makes my project in this essay self-defeating in an immediate sense. Given its parameters, the best one can do is to elaborate on what Quine's naturalism entails in the face of BonJour's insistence on the irreducibility of the *a priori* thought, an insistence that we must ultimately see as undermining our epistemological attempt to come clear on the nature of our beliefs. For Quine, reliance on intuition reveals a lack of reasoned support, as it prevents us from recognizing the nature of our beliefs as fundamentally hypothetical. The differences between naturalized epistemology and traditionalist foundationalism are clearly evident, especially in terms of the issues of normativity and justification. These differences generally suggest that Quine holds a different understanding of rationality in virtue of how the development of science can augment this understanding.

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