

Schema, Language, and Two Problems of Content

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Human cognition is often taken to be a rule-governed system of representations that serve to guide our beliefs about our actions in the world around us. This view, though, has two problems: it must explain how the conceptually governed contents of the mind can be about objects that exist in a non-conceptual world, and it must explain how the non-conceptual world serves as a constraint on belief. I argue that the solution to these problems is to recognize that cognition has both empirical and apriori elements. While neither approach can function in isolation from the other, the empirical approach resolves the first of these problems while apriori structures of rational cognition overcome the second. Taken together, these two views offer a promising solution to the two problems of mental content.

A vexing philosophical problem is the connection between mind and world. While not a universally held view, rational cognition is widely considered to have an internal and an external component. That is, human cognition is a conceptual, rule-governed system of representations that includes information obtained from a mind-independent world. There are at least two problems that must be resolved for this approach toward cognition to be viable: (1) to explain how the conceptually governed contents of the mind can be about objects that exist in a non-conceptual world, and (2) to explain how the non-conceptual world serves as a constraint on belief. These problems are two sides of the same coin, but, as I argue, the former question requires an empirically grounded solution while the latter requires an appeal to apriori structures of reasoning. Neither answer is itself sufficient, but together, they offer a defensible account of the relationship of mind and world.

I begin from a transcendental perspective, which assumes our capacity to represent the world around us. Although common sense is not an infallible guide, the fact is that we humans have intentional capacities and live our

lives by directing these capacities toward a presumably external world. Given my bias toward transcendental argument, I focus here on the work of Kant and Wittgenstein, both of whom adopt a similar transcendental approach. Despite (or, perhaps, because of) significant differences in their transcendental approaches, each philosopher offers insight into how thoughts have representational content. While Kant investigates internal conditions related to cognition, Wittgenstein investigates external conditions related to communal practices. Individually these philosophers both fail to adequately account for conceptually governed content and the world from which the content emerges. However, taken together their two views offer a “rational pragmatism” that avoids some of the central difficulties that arise when each of these views is considered in isolation.

What are these difficulties? In brief, the strong division between mind and world necessitated by Kant’s transcendental method places an unbridgeable wedge between mental concepts and the world toward which they must be directed. This wedge leads Kant to posit schemata as intermediaries between concepts and their content. And as Wittgenstein persuasively argues, this appeal to intermediaries leads to a problematic regress. On the other hand, Wittgenstein’s merging of mind and world through an appeal to practices is not immune to this regress because practices are not self-interpreting. The problem for both philosophers lies in explaining the link between mind and world without creating epistemic instability.

Combined, the two approaches offer a promising guide for explaining the relationship of non-conceptual features of the world to conceptually governed mental content. Each focuses on a key aspect of how the rational mind copes with the world around it, and each provides what the other needs to halt the problematic regress. A Kantian view offers a conception of objectivity and rationality that Wittgensteinian appeals to practice cannot support. By contrast, a Wittgensteinian view, with its emphasis on the social and external elements of cognition, avoids the need for intermediaries and allows a full integration of the conceptual and non-conceptual components of experience. I argue that a dual focus on the apriori and empirical provides for a practical explanation of the relationship between the cognitive and non-cognitive. In short, apriori constraints on cognition limit the range of interpretations of content while lived experience keeps cognition from being merely a matter of internal processing.¹

¹I use the term “apriori” to indicate something that does not originate in experience or sensation, although in my discussion of Kant, a wider use will be necessary since Kant also includes logical and epistemic interpretations of the term. In arguing for apriori constraints on cognition, I maintain that there are non-empirical limits to rational cognition. These limits may or may not be innate; however, they provide boundaries beyond which rationality ceases.

The Problem with Apriori Rules and Schema

Kant views cognition as a rule-governed synthesis. The mind is a functional system in which experience is actively produced by the interdependent operations of sensibility, imagination, and understanding. These three faculties work together to construct and unify individual representations into a thoroughly interconnected, single representation. The construction and unification of representations is not (and cannot be) a random process; rather, it is one that proceeds according to concepts, both apriori and empirical. While consciousness (i.e., Transcendental Apperception) unifies this synthetic process, concepts supposedly serve as the rules according to which this experience is constructed.² These concepts, in turn, have significance and meaning only when they are applied to empirical content. In his well-known dictum about concepts without intuitions being empty, Kant demands that cognitive states count as representations only if they (1) result from the application of a concept and (2) incorporate either sensory contact with objects in the world or other representations that have such empirical content.

The problem with this, however, is two-fold. First, in introducing the schematism, Kant clearly states that rules are open-ended and stand in need of interpretation. Hence, if concepts are rules, as Kant quite often proclaims, he must explain how apriori concepts are self-determining or self-interpreting. Second, if apriori concepts are, in themselves, devoid of any empirical content, Kant must explain how these concepts are nonetheless capable of ordering the subjective, empirical content of cognition. Neither problem is one Kant satisfactorily resolves.

The first of these problems is the nature of rules. Can any concept or rule be determinate in its application? In order to have any significance or meaning, all rules for cognition must apply to sensibility or empirical intuition. However, as Kant is fully aware, no rule determines its own application. No rule or concept interprets itself. In fact, Kant insists that rules demand guidance from judgment, which is the faculty of subsuming under rules (A132–133/B171–172). If, as Kant says, judgment can only be practiced and not taught, then there can be no determinate rules for the construction of representations. However, Kant does believe he has a way out of this problem. The interpretation of rules is necessary only for what Kant calls “general

²The word “supposedly” is deliberate here. Although I generally follow Bennett (1966), Pippin (1982), and Wolff (1963) in treating concepts as rules for the synthesis of material given in sensibility, I argue that Kant is not entirely comfortable with treating experience as thoroughly rule-governed. Kant recognizes that rules are open-ended in their interpretation, which poses a serious problem for apriori concepts. While I maintain that his solution — a transcendental logic with schemata — fails, I argue later that Kant’s appeal to apriori structures cannot be eliminated.

logic." There is also a "transcendental logic," which concerns determinate rules of judgement (see Kant A135/B174). Although Kant attempts to explain how such apriori self-determining rules are possible, the schematism ultimately fails.

Kant's account of cognition ostensibly explains the relationship of concepts to the material of sensibility, but only in the few pages dedicated to the schematism of concepts does Kant directly address the problem of uniting concepts with empirical content. Unfortunately, Kant's schematism is anything but a clear solution to the problem. Following the insights of Hume, Kant argues that since concepts are universally applicable rules for synthesis, they are removed from the individual instances or representations to which they apply. In his example of the concept "triangle," he maintains that no matter how many images of triangles we encounter, those images will never be sufficient to account for the universal nature of the concept. The concept "triangle" subsumes every possible instance of triangles, and thus, possession of the concept implies that one can apply it to any of these triangle instances (or at least to unambiguous cases). Individual representations, though, can never exhaust a universal concept. To bridge this gap between particular intuitions and universal concepts, Kant utilizes schemata. The schema of a concept, as Kant defines it, is a "representation of a universal procedure of the imagination in providing an image for a concept" (A140/B179–180). Schemata construct the images of objects that the concepts subsume, and in constructing images according to rules, they supposedly overcome the dichotomy between the possession and application of concepts.

Unfortunately, the schematism hardly explains our ability to use concepts. Kant maintains that the schematism is "an art concealed in the depths of the human soul, whose real modes of activity nature is hardly likely ever to allow us to discover, and to have open to our gaze" (A141/B180–181). Because a schema works prior to judgment, it also works prior to conscious understanding and is thereby mysterious in how it operates. Kant tells us the images are constructed, but he cannot tell us *how* they are constructed. This subconscious link between sensibility and understanding is uninformative as to the specific method for constructing images and bringing those images to consciousness. Kant's success in separating apriori conditions of cognition from the empirical application of concepts makes difficult the task of explaining how thought actually embraces the world. The point of contact between thought and world is left mysterious and unexplained.

The result of this failure is that Kant's promise of self-interpreting rules is unfulfilled: he understands that rules must be interpreted and that interpretation is always open-ended. Kant maintains, as he must, that there should be a way to formulate universal and sufficient conditions "under which objects can be given in harmony with these concepts" (B175/A336). The failure of

the schematism leaves these universal and sufficient conditions mysterious and leaves a priori concepts without any determinate content.

Two serious problems arise from the failure of the schematism. First, there is no objective standard for the correct application of rules. Even with the assumption of a non-conceptual world, this world cannot alone provide the needed constraint on cognition. The world, too, stands in need of interpretation. Experience is the result of a cognitive synthesis. Second, there is no clear account of how mind and world relate to one another for the link between them is inaccessible. As much as we may need some objective ground for cognition, this ground is meaningless without an empirically given content.

Kant recognizes the significance of these problems, but he sidesteps them in the schematism. To maintain, as he does, that the mechanism that explains the interaction of mind and world is, in the final analysis, an art concealed in the depths of the human soul is certainly not sufficiently informative. It is to deny, in principle, the possibility of a non-magical account of mind/world interaction. Perhaps, then, it is best simply to abandon such a sharp divide between mind and world in favor of a view that fully integrates the two. After all, one omission in Kant's account of cognitive synthesis is his lack of concern with intersubjective content, that is, those features of thought which result from our social interaction with other cognizers. In principle, Kant allows cognition to be an entirely private affair.³ Treating cognition as if it occurs only privately, however, ignores that thought does appear to depend largely on publicly manifestible, intersubjective content.⁴ By placing the normative constraints of thought content primarily within the mind via the a priori relationship between categories and object, Kant sidesteps the fact that normative constraints often arise in social interaction. A thought that I am unable, in principle, to communicate to others or that contains content that I alone can access is a thought on which I have a feeble grasp, if any grasp at all. In order to be credited with a grasp of concepts like "blue" or "pain," I must exhibit some ability to use the concept correctly. If I cannot utilize a concept in such a way as to effectively communicate my understanding of it, there is little basis to attribute to me the possession of that concept.

³Hubert Schwyzer (1990) maintains that Kant needs to demonstrate that synthetic operations in public language are necessary for consciousness of anything. While I would disagree that Kant himself must focus on the rule-governed aspect of language, I do agree that language provides a useful model for the type of synthesis Kant discusses.

⁴Of course, intersubjective content is only one element of cognition. Consciousness and a rule-governed synthesis are also required. For a more complete description of each of these elements of thought, see Gillett, 1992, pp. 14–16.

One way, then, of overcoming the problems of cognitive content is to seek out an external manifestation of the internal synthesis. This can lay open the link between mind and world. Language is just such an external manifestation, and taking language as a model for rule-governed synthesis can bring to light the connection between mind and world. It can better bring out the relation between mental content and the extrinsic factors that help determine it. Yet, linguistic practice is not, in itself, sufficiently able to resolve these issues.

Synthesis and Language

What is it about language that makes it a visible model of cognitive synthesis? Unlike Kantian synthesis, linguistic rule-following is widely held to have meaning only within the context of social practices or customs. While there is reason to maintain, with Kant, that not all concept acquisition requires language, language is nonetheless a significant catalyst for the acquisition of many of our concepts. Medin and Waxman (1998) show that at a basic level, children acquire privileged or basic object categories regardless of linguistic influence. But, beyond the basic level, the linguistic labeling practices of the adult community clearly shape the lexical and conceptual systems of children (see especially pp. 171–174). Cognition and rules for cognitive synthesis share certain affinities with language and linguistic rules. Synthesis is a rule-governed and representational activity that is internally constrained by concepts and externally constrained by the world, a world which provides the content for cognition. Whatever lies outside the bounds of this synthesis must remain unknowable. Whatever I cannot incorporate into my representational system is something of which I can have no experience. Similarly, language is a rule-governed representational activity that has meaning only in reference to the world.⁵

Meaning, as a social activity, is, at least in part, governed by rules. This meaning provides, then, a way to expose the workings of cognition and the mind/world link that Kant believes is inaccessible. In mastering a language, we must take into account the reactions of competent speakers as an indication of how well or badly we are using the language to construct meaningful, correct utterances.⁶ In short, language must be publicly accessible. A competent speaker is one who is capable of using correctly some publicly acknowl-

⁵See Wittgenstein, 1993, pp. 43, 44, 193.

⁶I am not necessarily taking the verificationist stand that language mastery is only composed of sensitivity to evidence from the environment, but clearly, this is part of what mastering a language involves and is something children are sensitive to in acquiring a first language (see Pinker, 1990, pp. 199–241).

edged criteria for the construction of meaningful sentences (minimally, basic rules of grammar).⁷ In turn, those meaningful sentences provide a means of accessing (if only indirectly) the thoughts of the speaker. As with cognition, language functions as a means of representing the world and is an activity which obeys certain rules and conventions. In contrast with Kant, however, the inner workings of this method of representation can be made visible.

Following Wittgenstein, language is rule-governed in much the same manner as Kantian synthesis. In fact, Wittgenstein's treatment of language as rule-governed raises issues that parallel those in the schematism. While the schematism is designed to explain the link between mental concepts and objects in the world, Wittgenstein's concern with "queer mental states" addresses a similar problem (1958, §195–198). In arguing against his earlier Tractarian view that having a picture (say, of a cube) before one's mind is sufficient for understanding the meaning of the term (§139), Wittgenstein says in the *Philosophical Investigations* that although the picture of the cube may suggest a certain use, it can neither contain the whole use of the term nor determine the correct use (§139–141; 195–197). This is because the mental image that comes before my mind can neither include future use of the term nor determine the correct use of the term. The mental image is itself a sign which, as with all signs, stands in need of interpretation. This, then, is the same problem Kant encounters in trying to determine the application of apriori concepts. The temptation is to posit some magical mental state (e.g., schema) in which the whole meaning of the term is contained in our current grasp of it (§197).⁸ While Wittgenstein dismisses such intermediaries, he also recognizes the dilemma this sets up in establishing the meaning of a term. If meaning is not something "before the mind," but rather is tied up with open-ended rules for determining use, how is it we ever grasp the meaning of our terms?

This problem of how it is we come to grasp the meaning of words is similar to the problem Kant addresses with the schematism. For Kant, the problem is how universal concepts can determinately subsume individual objects. Kant's concern is with how what is "in the head" connects with the empirical objects of sensibility. Wittgenstein's question is linguistic rather than episte-

⁷A causal account of meaning might account for such meaningful sentences on the basis of dispositional states which underlie behavior, but as Gillett argues, such an account would be an interpretive empirical theory which would rely on prescriptive norms of interpretation, not just causal or cognitive roles (1992, pp. 127–128).

⁸Wittgenstein says: "It becomes queer when we are led to think that the future development must in some way already be present in the act of grasping the use and yet isn't present. — For we say that there isn't any doubt that we understand the world, and on the other hand its meaning lies in its use. There is no doubt that I now want to play chess, but chess is the game it is in virtue of all its rules (and so on). Don't I know, then, which game I want to play until I have played it?" (1958, §197)

mological: he wants to know how my grasp or understanding of an expression (“what comes before the mind”) relates to the meaning, which, as Putnam says, “just ain’t in the head.” Given that we do intelligibly make use of language, what explains our ability to do this?

Before I go further, let me clearly articulate what I am *not* saying here. Although I want to argue for a parallel between the question Kant asks in the schematism and the question Wittgenstein asks in discussing queer mental states, I do not in any way claim that they are asking the same question. Rather, my point is that there are interesting similarities, similarities that point the way to a bridge between mind and world. Another point I need to make clear is that I am *not* claiming Wittgenstein and Kant propose the same solution to these dilemmas. In fact, I argue that a Wittgensteinian approach to Kant’s schematism dissolves the problem by eliminating the gap between mind and world that Kant’s transcendental method emphasizes. The reason Wittgenstein’s account of language is useful in bridging this Kantian divide lies in the parallels between Wittgenstein’s and Kant’s account of rules.

Wittgenstein argues that we determine the semantic content of language through an appeal to social practices rather than internal schemata. Since these social practices provide the normative constraints on what counts as correctly following a rule, the activity of linguistic rule-following cannot be merely an exclusively inner process or a “private” affair.⁹ The rules of language to which Wittgenstein appeals include what is said and done by uttering words in various situations and contexts. One’s grasp of the rule that governs the use of the term is determined by one’s ability to participate in such a practice. And since language-use is one of the fundamental methods we use in representing the world, understanding our experiences requires us to understand how we use language in representing the world (1958, §435). Further, since language is grounded in human practice and has meaning only in reference to human activities, it is a publicly accessible representational system that is flexible in response to human practices. On Wittgenstein’s account, then, my understanding of a language (or the terms and expressions of that language) amount to a capacity to *do* something with these signs. As an instrument of human practice, language does not operate independently of a context of human interaction and activity, for linguistic representations are significant only in terms of their relation to the world.

Why does such a view of language fit the model of Kantian synthesis? More importantly, how can language assist in bridging Kant’s gulf between concept and object? Synthesis and language are both functional processes whereby representations are constructed and combined in a rule-governed manner into a structured and coherent representation of the world. While

⁹For a further discussion of this point, see McGinn, 1984, pp. 35–37.

concepts allow us to differentiate and make sense of experience, it is experience that gives these concepts their meaning. Furthermore, experience is not merely a "passive" impingement of something "given." It must be actively constructed according to concepts. Possessing a concept amounts to having an *ability* to form judgments or make moves in a language-game. Mastery of a concept means that one can actively link situations and shape one's activity in the world in a way that allows one to master one's environment. The fundamental difference in the views of Kant and Wittgenstein is that Kant looks "inward" while Wittgenstein looks "outward."

Kant's transcendental method divorces the mind from the world. The process linking the two is inaccessibly hidden from view. The advantage of synthesis as an activity occurring in public language is that this combination of representations suddenly has an externally accessible manifestation.¹⁰ On both the internal and external models of synthesis, concepts or rules are the tools according to which we construct representations of the world, but from the external perspective, concepts are properly grounded in language and are open to view. Rules have significance only insofar as they are actually used within public language-games. As a result, concept possession becomes inextricably intertwined with concept application in a way that Kant desires but cannot explain. Concepts are grounded in patterns of human behavior and are meaningful only insofar as they have a use within these patterns. Since these patterns are public (at least in principle), concepts cannot be divorced from their application in the world. In other words, the Kantian problem of uniting mental concepts with empirical content is dissolved because concepts are never divorced from content.

Ultimately, this unity of concepts and content is precisely what Kant intends. Attributing concept possession to anyone will depend on her ability to appropriately use that concept in representing the world (e.g., to correctly identify instances of that concept in actual practices). Concepts are grounded in our actual use of language, and a thinker's grasp of a concept inherently requires her to be competent in applying that concept in actual situations. Here there is no division between concept and world. As a tool of language, concepts are essentially "in the head," but they cannot be understood apart from the reality to which they apply. With language as our model for synthesis, concepts are no longer divorced from their objects; we thereby avoid the

¹⁰Cognitive psychology is concerned with the mechanism which allows for representation, and in this sense, the method of synthesis requires further investigation. The relationship between representation and its physical instantiations in the brain is a concern, but my primary concern here is not just with how our representations re-present the world but with how the contact between mind and world gives rise to meaningful representations. Understanding the reductive or supervenient relationship of concepts or cognitive states upon brain states does not explain how cognition becomes meaningful.

problem of Kant's schematism and make mental content less problematic than it is in Kant. The first of our questions can now be answered: conceptually-governed contents of the mind are about objects that exist in a non-conceptual world because mind and world are inextricably interdependent. There is no gap between what there is and what we can think about. On the other hand, the second question, the question about how the non-conceptual world serves as a constraint on belief, remains unanswered. Cognitive synthesis may exist only in the context of empirical content and language may provide an accessible model for this synthesis; however, the epistemic problem remains.

Practices and Apriori Concepts

Our cognitive capacities are inextricably linked to experience for it is precisely these capacities that allow us to selectively attend to our environment and that guide our actions within this environment. The concepts we possess articulate a range of activities and abilities that determine our capacity to respond to the world. Further, the world of experience is what it is because of how we use concepts to structure it. Yet, these concepts emerge from and are intertwined with this world in such a way that it makes no sense to speak of concepts apart from the application to which they are put.¹¹

This simple appeal to the inextricable interdependence of mind and world is nonetheless incapable of providing an objective ground for linking mental content with the world that generates that content. The world is what supposedly keeps me from synthesizing or interpreting my experiences any way I want. The world is what ostensibly provides an external constraint on cognition. That is, mental content must supposedly answer to a mind-independent world. Yet, if cognition is inseparable from the non-conceptual and if it is grounded exclusively in empirical practices, there is no such thing as a mind-independent world. And if there is no mind-independent world, there is a further regress of interpretation that must be considered. This is not a regress of interpreting some intermediary between mind and world; rather, it is a regress of the cognitive concepts or rules that organize our representations of the world. How can we know whether these representations are accurate?

If language is indeed a model for cognitive synthesis, and if this synthesis is grounded in rule-governed practices, the problem is that these rules or practices are not self-interpreting or determinate. As Quine, Davidson, and Putnam have all persuasively argued, the terms and rules of language are always capable of multiple interpretations. Mental concepts are equally

¹¹For a further discussion of these issues, see Gillett, 1992, pp. 77–99. Also see Coley, Medin, Proffitt, Lynch, and Atran, 1999, on how we acquire folk biological concepts.

open-ended in their interpretation.¹² There must be a way to constrain the allowable interpretations of that content. Certainly, context provides much of the needed restriction on interpretation. In interpreting practices or linguistic expressions, one must clearly look beyond individual sentences or actions to the world in which a person's practices occur. Context will restrict the range of possible interpretations. However, context or the limitations of communal agreement is not enough. Although we may come to an agreement about how to interpret the world around us, it may simply be the case that we are just endorsing our own partial interpretations — or, we could simply be wrong, despite the agreement. For example, societies have shared widespread agreement about laws of physics or about moral values that we now consider to be misguided. This despite the fact that those societies had ample evidence to support their views. Even if we could appeal to communal agreement for some resolution, there is no mention of how this agreement is obtained. Is it merely an unspoken agreement that can be taken for granted, or must I persuade others of its correctness, perhaps through the use of force? Either way, there is no normative force to the claim that any of these interpretations is a correct (or more correct) one.¹³ Which interpretation is permissible amounts merely to agreement among the linguistic or cognitive community. As long as one must rely on interpretations of practice and communal agreement on these interpretations, the link between mind and world is mediated by communal assent. Global bias in interpreting rules is a distinct possibility, and the problem of how the world constrains mental content is merely raised to a higher level. This, then, is why apriori structures of rationality (i.e., normative rationality) should not be abandoned.

Apriori structures of rationality are those non-empirical grounds beyond which rationality no longer exists. What they offer is a way to specify the range of interpretations of the world. Experience must be interpreted, but without apriori structures limiting the interpretive enterprise, any representation or any action could be held to be in accordance with a rule, if not at the personal level then at least at the communal level. In the absence of constraints on how I am rationally permitted to structure my interaction with the world, experience could easily become unmanageable. If representative activities such as cognition and interpretation are merely natural processes that are capable of only empirical clarification, there is little room to speak of how these activities *ought* to proceed. What apriori structures do, then, is allow for the specification of conditions under which experience is possible. In other words, apriori structures set the limits under which we can

¹²See Medin and Thau, 1992, pp. 169–170.

¹³Of course, there is no single correct interpretation of the world. What is currently at issue is how to limit what constitutes a permissible interpretation.

be considered cognizers. They set the limits of correct reasoning; they provide the fundamental conditions under which one has a capacity to interpret one's environment and guide one's actions in a meaningful way; they limit the number of possible interpretations of activities without necessarily determining any one interpretation. Specific content remains open, but this content is not independent of basic constraints on how we are rationally allowed to make sense of the world.

Obviously, this view is not complete as it stands. The idea of apriori structures must be further developed, especially with respect to what are the actual constraints on rational cognition. However, this question has both empirical and apriori aspects. An example of such an empirical effort is found in John Anderson's *The Adaptive Character of Thought* in which he offers an analysis of human behavior at the "rational" (not computational) level. Anderson's suggestion is that the focus of empirical investigation be on the environment "outside the head." That is, we should look at "adaptive rationality" and how well we cope with our environment. However, I maintain that while adaptive rationality is essential to understanding our cognitive lives and its content, we cannot ignore efforts to specify "normative rationality" or the necessary limits on reason. Normative rationality need not be encapsulated in a single set of ahistoric, apriori concepts. There is no pressing need to rule out, in principle, the possibility of other forms of rationality.¹⁴ Nonetheless, it seems unlikely that we could recognize the rationality of someone employing a fundamentally different set of criteria and concepts. There are limits to what I can recognize as rational behavior or belief. These limits define the apriori structures of cognition and provide constraints (albeit not strictly determinate constraints) on interpretation of content. Such limits may (or may not) be innate or biological in origin, but they transcend our empirical contact with the world by providing the general form experience must take if we rationally interpret it.

So, what apriori limits are there to our cognitive grasp of the world? Generally speaking, there are three strong candidates: non-contradiction, subject-predicate relations, and coherence among concepts. Unless one holds relatively consistent beliefs, is capable of attributing properties to objects, and maintains a set of concepts that is mostly coherent, there would appear little chance of attributing a rational grasp of the world, regardless of how immersed that person's mind is in the world. Such a person's experiences will be radically different from those who meet the general conditions for rational cognition. The non-conceptual world cannot, on its own, provide

¹⁴This openness to multiple sets of apriori concepts is empty until alternative sets are identified. It is meaningless to talk about other structures for cognitive activity in the absence of concrete instances.

the required constraint on cognition. Yet, in the absence of experience, these highly general constraints offer little guidance for structuring the content of cognition. After all, I can attribute *any* property to *any* object, but that does not mean that, say, all grass is blue. Still, in the absence of these general principles, it is hard to imagine what the activities of cognition and linguistic interpretation would look like. In cases where one cannot make subject–predicate attributions or does not have the ability to link thoughts, it becomes difficult to attribute rationality to that person. Now, this is not to say that our beliefs must never contradict one another or that we must always be correct in our attributions of properties to objects. Rational cognition does not demand perfection. Furthermore, it may be possible for there to be other, radically different cognitive structures or apriori concepts that allow us to make sense of experience, but in the absence of specific candidates, it is hard to see what can be meant by saying this. There are limits beyond which I no longer attribute rationality to others, so, it is hard to comprehend what could be meant by saying there are radically different ways of rationally ordering mental content.

The two problems addressed at the beginning of this paper were: (1) to explain how the conceptually governed contents of the mind can be about objects that exist in a non-conceptual world, and (2) to explain how the non-conceptual world serves as a constraint on belief. The solution, I maintain, depends on both empirical and apriori elements of cognition. If one adopts a transcendental approach and assumes that we do, in fact, direct our cognitive lives toward an external world, we escape the gap between the conceptual and non-conceptual by recognizing that our cognitive lives are shaped by our environment and our attempts to adapt to that environment.¹⁵ However, rationality has a normative, as well as adaptive, component. The problem of establishing norms within which adaptive rationality operates requires an apriori approach to rationality. This dual dependence on internal standards of belief formation and external constraints on cognition explains how cognitive content is about the world but still dependent on features internal to cognition.

¹⁵See Anderson's general principle of rationality (1990, pp. 28–29).

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