

On the Conceptual and the Empirical

A CRITIQUE OF JOHN MIKHAIL'S COGNITIVISM

Dennis Patterson[†]

INTRODUCTION

This symposium was convened to consider the question of scientific truth. Of course, there are many questions one might ask about scientific truth. The most obvious question is whether “truth” names a property and, if so, what sort of property is it? If truth is not a property, then how are we to conceive of it? Is it a relation? If it is, between what things does the relation hold? Sentences or states-of-affairs are possible candidates. While important, these questions are best approached after one has addressed a more fundamental issue, that of the distinction between the conceptual and the empirical.

In this article, I will argue for two claims. First, that there is in fact a distinction between conceptual and empirical questions. Second, that conceptual questions are prior to (that is, they antecede) matters of truth and falsehood.¹ The

[†] Board of Governors Professor of Law and Philosophy, Co-Director, Institute for Law and Philosophy, Rutgers University, School of Law (Camden); Professor of Jurisprudence and International Trade, Swansea University, School of Law, Wales, U.K.

¹ Bennett and Hacker explain the empirical/conceptual distinction and its importance for empirical inquiry in the specific context of neuroscience.

Conceptual questions antecede matters of truth and falsehood. They are questions concerning our *forms of representation*, not questions concerning the truth and falsehood of empirical statements. These forms are presupposed by true (*and* false) scientific statements and by correct (*and* incorrect) scientific theories. They determine not what is empirically true or false, but rather what does and what does not make sense. Hence conceptual questions are not amenable to scientific investigation and experimentation or to scientific theorizing. For the concepts and conceptual relationships in question are *presupposed* by any such investigations and theorizings. Our concern here is not with trade union demarcation lines, but with distinctions between logically different kinds of intellectual inquiry. . . .

Distinguishing conceptual questions from empirical ones is of the first importance. When a conceptual question is confused with a scientific one, it is

relationship between the conceptual and the empirical is important because any empirical inquiry that proceeds from conceptual confusion cannot yield satisfactory results.

After setting out the distinctions just outlined in Part I, I will illustrate my claims in Parts II—V with reference to recent work by John Mikhail on moral cognition. Just as Noam Chomsky hypothesizes a universal linguistic grammar to explain speech behavior, so too, Mikhail argues, we can explain the moral behavior of persons in terms of universal moral grammar” (“UMG”) ² I will argue that Mikhail’s claims on behalf of UMG suffer from conceptual confusions that are not amenable to empirical resolution.³

I. THE EMPIRICAL AND THE CONCEPTUAL

There is an important distinction between conceptual and empirical questions. Empirical assertions are claims of fact. They are tested by the methodology of science, that is, through experimentation. In the realm of cognition, neuro- and cognitive scientists test hypotheses about brain functions. To

bound to appear singularly refractory. It seems in such cases as if science should be able to discover the truth of the matter under investigation by theory and experiment—yet it persistently fails to do so. That is not surprising, since conceptual questions are no more amenable to empirical methods of investigation than problems in pure mathematics are solvable by the methods of physics. Furthermore, when empirical problems are addressed without adequate conceptual clarity, misconceived questions are bound to be raised, and misdirected research is likely to ensue. For any unclarity regarding the relevant concepts will be reflected in corresponding unclarity in the questions, and hence in the design of experiments intended to answer them. And any incoherence in the grasp of the relevant conceptual structure is likely to be manifest in incoherences in the interpretation of the results of experiments.

M.R. BENNETT & P.M.S. HACKER, *Introduction to PHILOSOPHICAL FOUNDATIONS OF NEUROSCIENCE* 2 (2003). I discuss the importance of Bennett and Hacker’s critique of cognitivism in Dennis Patterson, *Philosophical Foundations of Neuroscience*, NOTRE DAME PHIL. REVIEWS (2003), <http://ndpr.nd.edu/review.cfm?id=1335> (book review).

² John Mikhail, *Universal Moral Grammar: Theory, Evidence and the Future*, 11 TRENDS IN COGNITIVE SCI. 143, 143 (2007). A central claim Mikhail makes is that “the mind contains a moral grammar.” *Id.* at 144. Mikhail makes clear that his account of moral grammar is a “computational” theory. *Id.* at 143.

³ Mikhail claims that “further research is needed to clarify the relevant conceptual and evidentiary issues.” *Id.* at 148. I contend that more research will clarify nothing because the research program is fundamentally misconceived. I discuss these issues more broadly in Dennis Patterson, *Fashionable Nonsense*, 81 TEX. L. REV. 841 (2003) (review essay discussing ANTHONY G. AMSTERDAM & JEROME E. BRUNER, *MINDING THE LAW* (2000); STEVEN L. WINTER, *A CLEARING IN THE FOREST: LAW, LIFE AND MIND* (2001); VINCENT DESCOMBES, *THE MIND’S PROVISIONS: A CRITIQUE OF COGNITIVISM* (Stephen Adam Schwartz, trans., 2001)).

take just one example, neuroscientists are particularly interested in correlating brain function with emotional and behavioral responses.⁴ Such work is thought to provide insight into the connection between the brain and behavior.

Conceptual questions, on the other hand, involve matters of sense.⁵ They are not amenable to empirical assessment, confirmation, or analysis. Conceptual relationships are presupposed by empirical claims. If there is conceptual confusion, then nothing of empirical value can obtain. The success of empirical inquiry depends upon conceptual clarity (that is, the absence of conceptual error or confusion).

Some neuroscientists are not content with limiting their work to brain functions and have given in to speculation about the relationship between the mind and the brain. Consider the concept of “mind.” The question “what is mind?” or “what is a mind?” implicates a panoply of other concepts like “vision,” “understanding,” and “thought.” The question “what is mind?” is conceptual and not empirical because, among other reasons, no experiment could answer the question. An answer to the question “what is mind?” requires a different *sort* of reply than

⁴ A recent example is Dean Mobbs et al., *Law, Responsibility, and the Brain*, 5 PLOS BIOLOGY 693 (2007), available at <http://www.pubmedcentral.nih.gov/picrender.fcgi?artid=1852146&blobtype=pdf>.

⁵ Bennett and Hacker explain the relationship of sense to truth thus:

Cognitive neuroscience is an experimental investigation that aims to discover empirical truths concerning the neural foundations of human faculties and the neural processes that accompany their exercise. A precondition of truth is sense. If a form of words makes no sense, then it won't express a truth. If it does not express a truth, then it can't explain anything. Philosophical investigation into the conceptual foundations of neuroscience aims to disclose and clarify conceptual truths that are presupposed by, and are conditions of the sense of, cogent descriptions of cognitive neuroscientific discoveries and theories. If conducted correctly, it will illuminate neuroscientific experiments and their description as well as the inferences that can be drawn from them. In *Philosophical Foundations of Neuroscience* we delineated the conceptual network formed by families of psychological concepts. These concepts are presupposed by cognitive neuroscientific research into the neural basis of human cognitive, cogitative, affective, and volitional powers. If the logical relations of implication, exclusion, compatibility, and presupposition that characterize the use of these concepts are not respected, invalid inferences are likely to be drawn, valid inferences are likely to be overlooked, and nonsensical combinations of words are likely to be treated as making sense.

Maxwell Bennett & Peter Hacker, *The Conceptual Presuppositions of Cognitive Neuroscience: A Reply to Critics*, in MAXWELL BENNETT ET AL., *NEUROSCIENCE AND PHILOSOPHY: BRAIN, MIND, AND LANGUAGE* 127, 128 (2007) (footnote omitted).

we give to the question “where in the brain does one find the medulla?”

Conceptual confusions arise in a variety of ways and can take several forms.⁶ Fundamentally, error can arise from failure to employ words in accordance with the rules for their use. But confusion can also arise in more complex ways. Professor Mikhail errs when he tries to locate moral knowledge in a “place,” that place being the mind. This form of conceptual error, I will argue, undermines Mikhail’s arguments for the explanatory power of UMG.

II. MIND AND MORAL GRAMMAR

Now to the more complicated subject of “mind.” What are the proper forms of expression for referring to “the mind”? To this point, I have endeavored only to make the point that the question “what is mind?” is not amenable to an empirical answer and that the answer it requires is bound up with rules for the use of words and expressions associated with our neural capacities. Now, I shall detail the central claims made by Mikhail on behalf of the theory of UMG before suggesting why these claims are conceptually confused.

I start with what Mikhail identifies as the core questions for UMG before considering Mikhail’s key claims. These questions frame Mikhail’s inquiry into the nature of mind and delineate the central focus of his research into the relationship between mind and moral knowledge. He asks:

1. What constitutes moral knowledge?
2. How is moral knowledge acquired?
3. How is moral knowledge put to use?
4. How is moral knowledge physically realized in the brain?
5. How did moral knowledge evolve in the species?⁷

In describing the main features of our innate moral capacity, Mikhail makes a number of key claims about the nature of mind and moral grammar. These are:

1. “[T]he mind contains a moral grammar”⁸

⁶ I discuss this topic in connection with philosophical naturalism in Dennis Patterson & John Oberdiek, *Moral Evaluation and Conceptual Analysis in Jurisprudential Methodology*, in *LAW AND PHILOSOPHY* 60-75 (Michael Freeman & Ross Harrison eds., 2007).

⁷ Mikhail, *supra* note 2, at 144.

2. “[T]he manner in which this grammar is acquired implies that at least some of its core attributes are innate, where ‘innate’ is used in a dispositional sense to refer to cognitive systems whose essential properties are largely pre-determined by the inherent structure of the mind”⁹
3. Moral intuitions “are best explained by assuming [that individuals] possess tacit knowledge of specific rules, concepts or principles.”¹⁰

I shall accept Mikhail’s claims about the nature of mind and, further, assume *arguendo* the truth of his claims about the role and function of moral grammar.

Nevertheless, Mikhail makes at least two philosophically suspect claims about the relationship between mind and moral grammar. These claims hint at larger, more structural problems with UMG. These are the two claims:

1. Moral knowledge is in the mind (brain);¹¹ and
2. Moral reasoning is a matter of unconscious application/interpretation of rules, principles, and “domain specific algorithms.”¹²

The first claim involves the locus of the mind’s tool for solving ethical problems. In the course of solving these problems, Mikhail argues, the mind accomplishes its moral computational tasks *unconsciously*. The second claim asserts that the mind’s methodology for tackling ethical problems is “interpretation.”¹³

There are two problems with the idea that we can explain moral cognition with the claim that the mind follows rules by unconsciously interpreting their requirements in particular cases. The first involves the claim that to

⁸ *Id.*

⁹ *Id.*

¹⁰ *Id.*

¹¹ *Id.* (“[T]he mind contains a moral grammar.”). This grammar is “innate” in that its “essential properties are largely pre-determined by the inherent structure of the mind.” *Id.*

¹² *Id.* at 148. Knowledge of these moral rules is “tacit.” *Id.* at 145. In solving ethical problems, “a pattern of organization . . . is imposed on the stimulus by the mind itself.” *Id.* The process of computation is “unconscious.” *Id.*

¹³ Mikhail puts it this way: “[H]ow the mind goes about interpreting these novel fact patterns, and assigning a deontic status to the acts they depict, is not revealed in any obvious way by the scenarios themselves.” *Id.*

understand what a rule requires we need to interpret it. The second involves the claim that “following a rule” is something a person does “unconsciously.” Neither of these claims makes sense; and, lacking sense, neither is amenable to empirical testing (that is, experiment).

III. UNDERSTANDING AS INTERPRETATION

Mikhail’s claim that we follow rules by interpreting them is one made in a wide variety of humanistic and social-scientific disciplines.¹⁴ The problem with the claim is structural and conceptual. If understanding a rule first requires interpretation of it, then there is no reason why the interpretation itself does not similarly stand in need of interpretation. This process of interpretive regression can go on infinitely.¹⁵ Hence, the term “infinite regress” has been used to describe the argument against the idea that to be understood, rules must first be “interpreted.”¹⁶ This argument, however, is

¹⁴ For detailed discussion, see generally Dennis Patterson, *The Poverty of Interpretive Universalism: Toward the Reconstruction of Legal Theory*, 72 TEX. L. REV. 1 (1993).

¹⁵ Wittgenstein made the point this way:

“But how can a rule shew me what I have to do at *this* point? Whatever I do is, on some interpretation, in accord with the rule.”—That is not what we ought to say, but rather: any interpretation still hangs in the air along with what it interprets, and cannot give it any support. Interpretations by themselves do not determine meaning.

LUDWIG WITTGENSTEIN, PHILOSOPHICAL INVESTIGATIONS § 198 (G.E.M. Anscombe trans., 1958); see also ROBERT B. BRANDOM, MAKING IT EXPLICIT: REASONING, REPRESENTING, AND DISCURSIVE COMMITMENT 508-09 (1994) (“Linguistic understanding depends on interpretation . . . only in extraordinary situations—where different languages are involved, or where ordinary communication has broken down.”); Jeff Coulter, *Is Contextualising Necessarily Interpretive?*, 21 J. PRAGMATICS 689, 692 (1994) (“Understanding is not an activity: it is akin to an ability. To understand is to have achieved knowledge of some kind, whilst interpreting is an activity which is akin to hypothesis formation or, in a different sense, to the assignment of significance (explanatory or otherwise) broader than the determination of intelligibility.” (footnote omitted)).

¹⁶ Peter Hacker explains:

[I]t is a grievous error to think that in understanding an utterance one always or even usually engages in interpretation. To interpret an utterance is to explain it, typically to paraphrase it in the same language or to translate it into a different language. . . . Obscurities, ambiguities or complexities may call out for an interpretation, but it would be wholly incoherent to think that all understanding is interpreting. For then the interpretation given, i.e. the paraphrase, would itself stand in need of an interpretation in order to be understood; and a vicious regress would be generated. This misconception has manifold roots. One is the bizarre idea that what we hear or utter are mere sounds which have to be correlated with or mapped on to meanings in

compressed: I shall spell it out in more detail, using Wittgenstein's arguments regarding understanding and interpretation to support my case.¹⁷

Wittgenstein's basic claim is that "understanding" is primary and "interpretation" a second-order or "parasitic" activity.¹⁸ Interpretation is parasitic in the sense that interpretation only arises where understanding is already in place. Understanding, according to Wittgenstein, is unreflective action. When we follow rules, we do so without second-guessing ourselves and without reflection on what the rule requires.

Wittgenstein begins his argument for the primacy of understanding by presenting us with a paradox. He writes:

This was our paradox: no course of action could be determined by a rule, because every course of action can be made out to accord with the rule. The answer was: if everything can be made out to accord with the rule, then it can also be made out to conflict with it. And so there would be neither accord nor conflict here.¹⁹

Why does Wittgenstein question the importance of interpretation as an explanation of meaning (that is, as an explanation of what it is to grasp the meaning of a rule or what the rule requires by way of correct action)? His point is that if the understanding of an utterance or sign were a matter of advancing an interpretation (which is just another utterance or sign), then the interpretation itself would require its own interpretation, and so on, infinitely. This argument—the infinite regress argument—is meant to inspire us to question the idea of understanding as interpretation. Wittgenstein urges us to rethink the notion that before we can understand an utterance we must first interpret it. According to him, understanding a rule is fundamental to our role as participants in practice. Interpretation, by contrast, is an activity we engage in when our understanding breaks down.

order to be understood. But we no more hear or utter mere sounds than we see or paint mere patches of colour. We hear and utter meaningful words and sentences

P.M.S. Hacker, *Language, Rules and Pseudo-Rules*, 8 LANGUAGE & COMM. 159, 168 (1988).

¹⁷ For detailed discussion of the understanding/interpretation distinction and its relevance for law, see DENNIS PATTERSON, LAW AND TRUTH 86-88 (1996).

¹⁸ WITTGENSTEIN, *supra* note 15, §§ 139-242.

¹⁹ *Id.* § 201.

Wittgenstein's insight is that rule-following is not a mental phenomenon. Succinctly stated, Wittgenstein relocates normativity in action, specifically social action. The normativity of rule-following—the ground of correctness and incorrectness—is not to be found in the agreement of others as such. Rather, the agreement of rule-followers over time is the ground of understanding. Agreement is a necessary feature of the normativity of our practices, but the agreement must be a regularity in reaction to use. In short, when we say there must be “agreement in actions” what we are really saying is that there must be harmony in application over time.²⁰ This harmony in reaction and application is constitutive of all practices, including legal practice. It is the basis of our legal judgments.

The distinction between correct and incorrect rule-following is a matter of community agreement in judgments over time.²¹ If Wittgenstein is correct, then the idea of unconscious rule-following is nonsensical. Following a rule, making judgments about what a rule requires, and the very idea of normativity itself require a role for others in the intersubjective constitution of norms of correctness. The Mikhail/Chomsky view of rule-following never gains traction

²⁰ For discussion, see MEREDITH WILLIAMS, WITTGENSTEIN, MIND AND MEANING: TOWARD A SOCIAL CONCEPTION OF MIND 176 (1999).

It is in this sense that community agreement is constitutive of practices, and that agreement must be displayed in action. There are two important features about this account that need to be highlighted. First, it is the *social* practice that provides the structure within which individual understanding can obtain or individual judgement be made. Central to Wittgenstein's thought is the claim, repeatedly argued for, that no isolated event or behavior can correctly be described as naming or obeying or understanding. The rule as formula, the standard as chart, or the paradigm as an instance have no normative or representational status in their own right. They have this status only in virtue of the way the formula or the chart or the instance is used. It is the use that creates the structured context within which sign-posts point, series can be continued, orders be obeyed and paradigms be exemplary. Only then can we see a particular action as embodying or instancing a grammatical structure. In short, the mandatory stage setting is social practice.

Second, community agreement does not constitute a justification for particular judgements. What is indispensable for correct, or appropriate, judgement and action is that there *is* concord, *not* that each individual justifies his (or anyone else's) judgement and action by appeal to its harmony with the judgement of others.

Id. (footnote omitted).

²¹ *See id.* at 169.

because it never moves beyond the ground of the internal constitution of mind.

IV. UNCONSCIOUS RULE-FOLLOWING

Like Chomsky's rules of generative grammar,²² Mikhail's UMG postulates innate knowledge of a moral grammar. This claim makes no sense. How can a child be said to "know" moral norms without ever being conscious of them? In other words, before a child even learns a syllable of language, how can she be said to possess moral knowledge?

The problem posed by this question cannot be avoided by asserting that we "follow" rules "unconsciously." Again, the problem is conceptual.²³ "Rule-following" includes a panoply of normative activities. When we follow rules we do the following things:

1. Justify our behavior by reference to the rule;
2. Consult the rule in deciding on a course of conduct;
3. Correct our behavior and that of others by reference to the rule; and
4. Interpret the rule when we fail to understand what it requires.

It is difficult to see how these normative activities are possible when we are unconscious of the existence of the rule. Of course, we may act in a manner *consistent* with a rule. But that is not to say that we are following the rule, for to do that would require that we do all the things I just mentioned. Thus, Mikhail's claim that a person follows a rule unconsciously is untenable.

²² Generative grammar is a theory of syntax. The grammar takes the form of a system of formalized rules which mechanically generate all and only the grammatical sentences of a language. See *generally* NOAM CHOMSKY, ASPECTS OF THE THEORY OF SYNTAX 3-10 (1965).

²³ In the opinion of one careful reader, Chomsky—the inspiration for Professor Mikhail's model of unconscious rule-following—has abandoned the idea. See John Searle, *End of the Revolution*, N.Y. REV. BOOKS, Feb. 28, 2002, at 36 (reviewing NOAM CHOMSKY, NEW HORIZONS IN THE STUDY OF LANGUAGE AND MIND (2000)) ("Chomsky has now given up on the idea that Universal Grammar is a matter of unconscious rule-following. But he also dismisses the idea that real human languages are governed by rules. That, I believe, cannot be right.").

V. MIND, MORAL GRAMMAR, AND KNOWLEDGE

Finally, I come to Mikhail's most fundamental claim, that is, that "the mind contains a moral grammar"²⁴ and that this grammar is part of "the inherent structure of the mind."²⁵ Like all forms of rationalism, Mikhail's premise is that the object of explanation (in this case, moral knowledge) is located in a place. In Mikhail's view, moral knowledge is in the mind.

This claim is confused because "knowledge" is an ability and not a thing. "Know" is a success verb, not a referent.²⁶ To "know" something is neither to be in a certain state nor is it to be in possession of a particular structure of mind or brain.²⁷ Like all abilities, the ability to know moral rules is exhibited in behavior. Criteria for the ascription of knowledge consist of correct performances. "Knowledge" includes, among other things, being able to spot error, explain the error, and correct it. In doing these things, one demonstrates that one has *mastered* rules—not that one's mind or brain "contains" the rules.²⁸

Consider: when we say "Jones knows the train schedule from Warsaw to Krakow," we are not saying that Jones has the schedule hard-wired into his mind. Even if he did, that would still not be sufficient to say that he "knows" the schedule because to know the schedule means knowing how to read the schedule correctly. To do this, Jones needs to be able to *do* things with the schedule. It is that *doing* that is the ground of the ascription "Jones knows." Since knowledge is an ability, rather than a thing, it cannot be located in the brain, or anywhere else for that matter.

There is also a more fundamental problem with Mikhail's account of UMG, one that goes beyond the confusion of an ability with a thing. The problem is that Mikhail thinks that the mind is a "place." In this place, Mikhail locates the moral grammar whose "inherent structure" explains our

²⁴ Mikhail, *supra* note 2, at 144.

²⁵ *Id.*

²⁶ Of course, when we make a decision, many things may cross our mind or come to mind. The causal processes for these are varied and many. But none of these accompaniments constitutes "thinking" or "deciding."

²⁷ ANTHONY KENNY, THE LEGACY OF WITTGENSTEIN 129 (1984) ("To contain information is to be in a certain state, while to know something is to possess a certain capacity.").

²⁸ See P.M.S. Hacker, *Chomsky's Problems*, 10 LANGUAGE & COMM. 127, 128-29 (1990).

behavior. But there is no such place as “the mind.” John Searle recently compared thinking with digestion. He postulated that just as digestion occurs in the stomach, so does consciousness occur in the brain.²⁹ Because we predicate both thinking and digesting to persons, these important capacities could each be located in a person.

But the analogy does not hold. If we open someone’s stomach, we can see the process of digestion occurring. But if we open someone’s brain or mind,³⁰ we do not find anything we might call “thinking.”³¹ Of course, Mikhail’s point could be that in order to have knowledge we must first have the necessary equipment to make judgments. This is granted but handled by the distinction between having an ability and exercising it. The normative (“what is thinking?”) cannot be reduced to the causal (“what enables us to think?”).³²

The most fundamental problem with Mikhail’s view of the nature of mind is that the idea of a moral grammar hard-wired into the mind is a posit that can never be shown to be true. Deeming this posit a hypothesis is to use the language of experimentation to support a thesis the truth of which could never be shown to be true or false.³³ Mikhail’s claims for the

²⁹ See John Searle, *Putting Consciousness Back in the Brain: Reply to Bennett and Hacker, Philosophical Foundations in Neuroscience*, in BENNETT ET AL., *supra* note 5, at 97, 108-09.

³⁰ Query how one would “open a mind”?

³¹ Of course, an MRI scanner will show that certain areas of the brain are actuated when a person is thinking. While the brain is necessary for one to have thoughts, the thoughts are not “located” in the brain. See Bennett & Hacker, *supra* note 5, at 143.

³² See Hacker, *supra* note 28, at 134.

Neurophysiologists may discover that certain neural configurations are causally necessary conditions for having the ability to speak a language. But they will never find any knowledge in the brain. Neither what one knows, namely truths, facts, or propositions, nor abilities to say, show or tell what one knows (i.e. abilities constitutive of knowing) can (logically) be found in the brain. For truths, facts, and propositions, although they can be recorded on paper or on a computer disc, cannot be recorded on or in the *brain*. For whereas we record facts by means of a symbolism, a language, and write the information down in a notebook or store it on a computer disc, there is no such thing as the brain’s employing a language, understanding or speaking a language, nor is there any such thing as human beings employing brains as repositories for written records, let alone as computer discs. To say that truths, facts, or propositions are stored, filed away, or retained in one’s *mind* is just to say that they are known and not forgotten.

Id.

³³ Richard Rorty makes the same point with respect to Chomsky. See Richard Rorty, *The Brain as Hardware, Culture as Software*, 47 INQUIRY 219, 222 (2004):

explanatory efficacy of UMG trade on the language of science without delivering scientific results. In short, the arguments for UMG confuse two different discourses, those of scientific proof and those of speculative metaphysics.

So, what is “mind”? Mind is the ability to engage in linguistic behavior. “Having a mind” is just having a set of social skills. Talk of moral grammar is simply an elliptical reference to the language of morals, not a state of the mind or brain. This is not to minimize moral problems—far from it. It is, however, to locate them in their proper place—that is, “outside” the mind or brain.

CONCLUSION

In this article, I have defended the claim that there is a distinction between the empirical and the conceptual. I have made the case that conceptual questions precede empirical investigations because without conceptual clarity, nothing of sense can follow from experiment. I have used John Mikhail’s arguments on behalf of UMG to make the case for the distinction between the conceptual and the empirical. The issues Mikhail has taken up implicate some of the most basic

Consider, for example, Chomsky’s claim that there is ‘a fixed biologically determined function that maps evidence available into acquired knowledge, uniformly for all languages’. It is hard to see this as an empirical result, since it is hard to think what could disconfirm it. It is uncontroversial that organisms that can learn languages have this ability because they have different neural layouts than other organisms. The layouts, to be sure, are biologically determined. But in what sense can a function be so determined?

To say that a mechanism embodies a function is just to say that its behavior can usefully be described in terms of a certain specifiable relation between input and output. Nobody can specify any such relation between the inputs provided by language-teaching adults and the outputs provided by a language-learning child, because they are too various. It would be like trying to specify a relation between the events that occur in the course of learning to ride a bicycle and those that are the actions of the accomplished bicyclist.

But, Chomsky tells us, there is a function that, rather than mapping inputs onto outputs, maps inputs into something called ‘acquired knowledge’. Well, the bicyclist too has acquired some knowledge. Should we say that he has acquired it thanks to a biologically determined function that maps the events of his early, tentative, abortive rides onto a set of internal representations whose possession is a necessary condition of his newly acquired ability? We could, but what would count as confirming the existence of such a mediating entity, in between the learning events and the actions which produce successful bicycle rides?

Id.

debates in contemporary philosophy. But these contemporary debates are a reprise of a much older debate, that between rationalism and its critics. The primary issues presented by UMG cannot be resolved through further empirical research.³⁴ These issues can never be resolved by empirical methods because they are, at bottom, philosophical.

³⁴ Mikhail seems to think otherwise. Mikhail, *supra* note 2, at 148 (“[F]urther research is needed to clarify the relevant conceptual and evidentiary issues.”).