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Jody Azzouni

The Rule-Following Paradox and its Implications for Metaphysics

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Jody Azzouni
Department of Philosophy
Tufts University
Medford, MA, USA

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Acknowledgments

This book is essentially the doubling in size of an earlier paper on the same topic: "The rule-following paradox and the impossibility of private rule-following" (*The Baltic International Yearbook of Cognition, Logic and Communication*, Volume 5: *Meaning, understanding and knowledge*, 2010). My gratitude similarly doubles the acknowledgments of help received for the original article and help received for the subsequent book. So here goes. I must thank, to begin with, Brendon Larver and David Corfield for organizing the conference *Two streams in the philosophy of mathematics: Rival conceptions of mathematical proof* (July 1–3, 2009, University of Hertfordshire, Hatfield, UK) and, of course, for inviting me to speak. (I may have disappointed them. Only when I arrived did I realize they wanted me to speak about the Azzouni-Rav debate—which I'd never *heard of* until then—but I had prepared to speak about this instead.) I also thank the scientific committee, and the invited organizers, of the 5th International Symposium of Cognition, Logic and Communication for the conference *Meaning, understanding and knowledge* (August 7–9, 2009, Riga, Latvia) and, again, for inviting me to speak. I especially want to thank Jurģis Šķilters, Anda Baklane, and the participants of both conferences for making them such rich and enjoyable experiences.

I thank Douglas Patterson for his detailed comments on the penultimate draft of my original article. They were extremely valuable, as always. My thanks as well to Eric Schliesser for directing me to some invaluable terminology and for always making wise suggestions about the many ways I might explore diplomacy in print.

I should add that this book (as well as the paper it originates from) discharges an old promise I made in *Metaphysical Myths, Mathematical Practice: The Ontology and Epistemology of the Exact Sciences* (Cambridge, 1994). I indicated there that my philosophical approach to mathematical practice has, as a corollary, a response to (a version of) the rule-following paradox. In spirit, although not in expository details, the original article is what I had in mind. The characterization of the evolution of scientific language that I wrote up in 1994–1995 and subsequently published in *Knowledge and Reference in Empirical Science* (Routledge, 2000)—especially Part IV—illustrates the "waxing and waning picture" of language, as well as the contrastivist/noncontrastivist characterizations of language evolution; but reasons

of space prevented an explicit application of these notions to the rule-following paradox at that time. I'm thus very grateful to the editors of the *5th issue of The Baltic International Yearbook of Cognition, Logic and Communication* for giving me the opportunity to finally lay all this out.

I taught the penultimate version of this book in the fall of 2015, and I received invaluable suggestions and "pushback"—much of which I dealt with in the final rewriting of the book in the summer of 2016. My thanks to Brad Clendenen, Matthew DiRe, Megan Entwistle, Casey Lange, Jeff McConnell, Steven Norris, Taylor Oddleifson, George Smith, Michael Veldman, and Douglas Yetman. My thanks to Tufts University and its philosophy department for creating an environment that makes possible research courses like this one. I also thank the anonymous referee for several suggestions about exposition, organization, and content that I've taken. I'm grateful to both Otávio Bueno and Ties Nijssen for smoothing this book's road to publication.

Samia Hesni should be thanked for taking me ("dragging me," is perhaps more accurate) to the Pacific APA 2016 symposium on the normativity of meaning. I was only glancingly aware of much of that literature—and it gave me an opportunity to do a fresh run-through of a number of articles that raise concerns that, I'll admit, I'm largely unsympathetic to. Nevertheless, some commentary is required, which I added to the manuscript during its final revision. My thanks to Eric Dean for some editorial suggestions on the final version.

I'm grateful to Mario De Caro for looking over the nearly final version of the manuscript in December of 2016 and pressing me (in various ways) to engineer additional clarity. Apart from that, I also want to thank him for urging me, more than once, to expand my original article on rule following into a book. He gave good reasons, but I resisted for years, as I always resist suggestions like this. I have so many other projects I'm hoping to finish (before I die or otherwise enjoy some permanent form of cognitive impairment). Two subsequent events, however, changed my mind. First, I ran across an article of J.R.G. Williams, published in 2007; and I realized that his defense of reference magnetism deserved a response in this context. Second, Otávio Bueno urged me to participate in the Brief Books series of Springer; and this meant that a large book was ruled out from the start. This is important, because I need external constraints like word limits in order to, well, limit how much I tell the reader at one go. The original article covers so much territory precisely because the editors insisted there were no word limits—despite my desperate pleas for them. Even though this book ended up in a different Springer series, it's still the shortest philosophy book I've ever written. The efficacy of word limits, everyone should have them—everyone like *me*, anyway.

Contents

Chapter 1
General Introduction

Abstract A summary of the entire book is given. Apart from descriptions of the contents of each chapter, several additional methodological points are made. I give reasons to avoid, as tools of philosophical analysis, concepts such as "understanding," "meaning," and "fact." I also describe some significant differences between how I understand rule following and how Kripke does. In particular (and this is a difference between my approach and that of most philosophers concerned with this topic), I focus very much on "rule following" as it occurs in the application of tasks that the subject engages in during his interaction with the world, as opposed to intrinsic arithmetic exercises, such as counting numerals or adding them.

Central to the "rule-following paradox," which is the topic of this book, is the notion of "understanding," as used in "she understands how to add," "he understands how to continue counting numbers above ten," and "she understands those concepts." A methodological warning is immediately in order, however: "Understanding," so used, is a word for a bewilderingly intricate human capacity that involves subpersonal, conscious/phenomenological, sociological, and normative elements. It's a notion that's too dangerously complex to be *presupposed* in philosophical analyses; it should only be a *target* of such analyses. It's hardly the only word too dangerous for philosophers to use as a tool for analysis rather than as a target of it. Another over-used serpentine trap is "explanation"; yet a third is "meaning." Even repeated and obvious (and palpable) failure doesn't seem to stop philosophers from continuing to build fine-tuned analyses on such foundations of sand.

Quine rarely comments on his general approach to doing philosophy—even his avowals of naturalism and extensionalism (for example) are pretty specific in content and application. Nevertheless, I've found a rare methodological meditation that's worth *memorizing*. Quine (1981, 184) writes:

> "Sentences have replaced thoughts," according to Schulenfrei's account of my views, "and dispositions to assent have replaced belief." Does he mean that for me there is no more than this to thought and belief? Reading on, I suspect that he does. Then he misunderstands me.

Quine continues:

> My position is that the notions of thought and belief are very worthy objects of philosophical and scientific clarification and analysis, and that they are in equal measure very ill suited

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> for use as instruments of philosophical and scientific clarification and analysis. If some one accepts these notions outright for such use, I am at a loss to imagine what he can have deemed more in need of clarification and analysis than the things he has thus accepted.

But let's stick with the notion of "understanding" since that's the notion this book is directly concerned with. Common to several philosophical traditions is the assumption that someone's understanding of a set of concepts must be grounded in the grasping of the rules that govern those concepts. This captures—so it's thought—the way we understand the meanings of words, as well as how we understand the concepts involved in simple mathematical practices—such as counting. A nice set of models for this picture can be found in rule-governed games, such as chess. This line of thought predicts that once the rules of chess are learned by an individual, she will understand how to play chess—any chess game under any set of circumstances.

Some proponents of this position describe us as having "dispositions" to grasp those rules, or even as having such rules embodied in our dispositions so that we behave appropriately in situations where we exhibit this kind of "understanding"—for example, when counting the oranges in a basket.

A huge literature has focused on "the rule-following paradox"—that aspects of our rule-following practices seem at odds with this natural picture of our grasp of rules. In particular, Kripke (1982) has spawned a large philosophical industry focused on the problems he presents Wittgenstein as having raised for any approach that grounds the understanding of simple mathematical rules in the exercise of a set of dispositions. (Kripke does not present the view as his own; and he—and others—recognize it may not be Wittgenstein's. The coined word "Kripkenstein," consequently, has entered the literature. I avoid this term in this book, preferring to let phrases like "Kripke's Wittgenstein," or context, do its work instead.)

Briefly (and perhaps inaccurately), the rule-following puzzle is this: We understand ourselves as following rules, and given appropriate training, as able to do this. But the means by which we understand ourselves as abled in this way are shown by Kripke as not up to the job. The candidates for enabling the rule-following ability, for example, an introspective grasp of rules, various habits or dispositions to execute rules when faced with a task, and so on, are shown by Kripke as unable to underwrite all the required elements of our competence for rule following. Kripke responds to the paradox by offering a "sceptical solution": Such a solution, conceding failure to the "meaning sceptic," reconfigures the understanding of our practice of rule following in several crucial ways. Among them is that an understanding of meaning in terms of "truth conditions" is rejected. Instead, what's required are "assertability conditions" in terms of the conformity of an individual's rule-following practices with that of a community.

Kripke's version of Wittgenstein's rule-following paradox has been extremely influential. One of my concerns is with how it—and Wittgenstein's views more generally—have been perceived as undercutting the individualistic picture of mathematical practice: the view that individuals (I'll call them "*Robinson Crusoes*"), independently of a community, can engage in cogent mathematics, and indeed can

have "private languages." The paradox denies that phrases like "correctly counting" can be applied to such individuals because these normative notions can only be cogently applied relative to community standards (so the analysis is taken to reveal).

One of the original elements in my alternative "sceptical solution" to the rule following paradox is that this shocking corollary doesn't follow—not even if Kripke's Wittgensteinian objections to dispositional approaches to rule following are largely right. This is because my solution to the rule-following paradox doesn't favor community standards over individual ones. Furthermore, it doesn't replace truth conditions with assertability conditions; and this is essential to Kripke's solution favoring the community over the individual. Instead, my approach focuses on how dispositions to execute rules enable individuals to interact more or less successfully with the world. Suppose their practices exhibit dispositions that change in a way that over time progressively optimizes success events (e.g., predicting how much food will be needed over how many days). Then conformity between how individuals follow rules will result even without rule-following practices being explicitly related to a community.[1]

Lewis (1983), in an article almost as influential as Kripke (1982), connects Kripke's version of the rule-following paradox to Putnam's (1981) then version of anti-realism by virtue of offering the same solution to both of them. Lewis urges an approach that, nearly enough, builds into the references of natural-kind terms (as well as mathematical terms such as "sum") a *presupposition* of metaphysical constraints on the possible extensions of those terms. Lewis contends that this presupposition is *required* to respond to Kripke's Wittgensteinian paradox *and* to Putnam's anti-realism. A subsequent generation of analytic metaphysicians has explicitly adopted Lewis's response under the rubric of "reference magnetism." In Chap. 4, I show that this family of Lewisian approaches to the rule-following problem—hereafter described as "reference-magnetism" approaches, following the nomenclature of Lewis's followers—doesn't work and isn't needed.

Lewis never uses "reference magnetism." This phrase apparently originates in Hodes (1984, 135), where he expresses a puzzle. *Hodes's* question is: how is it that,

> we all end up speaking languages in which, out of all possible numberers [that is, type 2 functions F carrying type 1 concepts to objects, where for all such concepts X and Y, $F(X) = F(Y) \equiv (Q_E x)(Xx, Yx)$], the phrase "the number of" stands for the standard numberer? Why is the standard numberer a "reference magnet" which "draws" reference by that phrase, in a way in which its nonstandard competitors cannot?

"Reference magnetism," is well-tuned (as Hodes's phrases so often are); no wonder it was adopted by the next generation of philosophers to convey something different.

Here's an outline of the chapters of the book.

In Chap. 2, I revisit Kripke's discussion of the rule-following paradox for dispositional approaches to numerical competence, and the alternative solution to the paradox that he offers on behalf of Wittgenstein. To a large extent, the considerations

[1] I'm omitting important details about how this works out in order to give a clear overview. The subsequent chapters don't omit these details.

I raise in this chapter are Kripke's original ones. In doing so, I don't worry about questions of Wittgensteinian exegesis—of how true Kripke's concerns are to Wittgenstein's originals.[2] Kripke's formulation of the challenges to the meaning-dispositionalist is significant (and extremely influential) regardless of how true it is to Wittgenstein's own thinking. There are two changes, however. First, Kripke's discussion uses the central example of a subject adding, and the sceptical challenge that everything she has learnt and previously experienced is consistent with the possibility that she isn't adding but instead doing something different. I substitute for addition the more elementary task of counting, and the corresponding possibility of doing something different instead of counting. This is minor. Kripke (1982, 17) himself raises the issue about counting in passing.

The second change is significant: it's the key to my solution to the rule-following paradox. My central rule-following paradox-case focuses on the subject who is counting *things*—objects—not someone who is solving a task that involves numerals *alone*. Children learn to count in just this way: they learn to *apply* counting-numbers to tasks of recognizing cardinal numbers of sets of objects, a kind of knowledge that takes several years to acquire.[3] This is important because "social solutions" to the rule-following paradox—ones that normatively favor the community over the individual—have been seen by many philosophers (and sociologists of knowledge) to be the only successful responses that can be made to the paradox. One reason for this is a neglect of considerations about mathematical-concept application *to the world*. Similarly, application of mathematics to the world is largely off-stage in Kripke's discussion (and, as a knock-on effect, it's largely off-stage in the discussions of the many commentators on this literature).

It's not particularly off-stage in Wittgenstein's own work (it's important to add) if only because he often gives examples of people counting objects. Kripke also takes note of the numerical sizes of collections often being the target of counting tasks when he discusses—in passing—"quounting," and when he discusses Wittgenstein's text. However: if the counting of collections of *objects* is centrally incorporated into the examples that Kripke's meaning sceptic challenges, as I show in later chapters, that makes salient possible (but overlooked) coherent forms of private-language practices. In particular, the crucial notion of *private-language-practice coherence-inducing dispositions* (*plpci dispositions*) that I introduce in Chap. 5 has *no* foothold outside contexts of applying concepts to the worldly items they hold of. My sceptical solution to the rule-following paradox, therefore, won't help disembodied Cartesian entities that avoid boredom by (eternally) counting numerals in their heads.

These disagreements with Kripke's Wittgenstein aside, I should add that I'm in partial agreement with one important lemma that Kripke draws from the rule-following paradox, and that he (1982, 78–79), in a rare moment, officially endorses:

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[2] There is literature on this question. A taste: Blackburn (1984), Goldfarb (1985, 1992), McDowell (1984), Tait (1986).

[3] See, for good discussions of this, and the citation of relevant literature, Carey (2009) and Butterworth (1999), chapter 3, sections 1–4. A classic study is Gelman and Gallistel (1986).

One must reject "the natural presupposition that meaningful declarative sentences must purport to correspond to facts." (He adds: "The picture of correspondence-to-facts must be cleared away before we can begin with the sceptical problem.") I'm in *partial* agreement with Kripke because I think that rule-following considerations do show that we must accept that *some* meaningful declarative sentences don't correspond to facts. I don't, however, think that this is established with respect to *all* meaningful declarative sentences. I'll show why rule-following considerations demand only a *partial* rejection of correspondence metaphysics in Chap. 6. This discussion simultaneously motivates my particular form of truth deflationism—one that I've extensively discussed elsewhere.[4]

One crucial point to make now is this. The dispositionalist hope that so much of Kripke's (1982) analysis is dedicated to crushing locates the *grounds*, of the correspondence relation between meaningful true sentences and the facts to which they correspond, within the "mind" (broadly described) of the person following a rule. There are facts *about the person* and what she *can do* that determine the correspondence relations between her meaningful true sentences and facts in the world. I think rule-following considerations show this dispositional project fails; dispositions *cannot* do the job that most dispositionalists have required of them, and this is largely for the reasons that Kripke has given (on behalf of Wittgenstein).

I reject, however, a major thesis that many draw from this lemma. Kripke has carefully described himself as only an expositor, but a large number of philosophers (and sociologists of knowledge) assert the conclusion that considerations, like the ones I'll present in Chap. 2, lead inexorably to the result that standards for mathematical practice—and for rule following in general—must be relativized to, or embodied in, the *community* within which the individual learns rules. To use Kripke's (1982, 109) language,

> What is really denied is what might be called the 'private model' of rule following, that the notion of a person following a given rule is to be analyzed simply in terms of facts about the rule follower and the rule follower alone, without reference to his membership in a wider community.

One aim of this book is to show that although Kripke is largely right about the nature of the rule-following paradox and the responses following from it, the private model of rule following emerges unscathed from the paradox he presents. The contours of logical space in this problem-area are more twisted and subtle than late last-century thinkers anticipated.

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[4] See Azzouni (2006, forthcoming), and Chap. 6 of this book. Interpreting Kripke's formulation, above, is complicated because of his phrase "must purport." My view is that meaningful declarative sentences can or even "must" purport to correspond to the facts; that's compatible with some of them *not* actually so corresponding. (The cogency of this gloss depends, of course, on exactly what "purport" means. The word isn't entirely clear. Also, whether Kripke's "clearing away" is intended to be a complete or only partial removal of "correspondence" isn't clear either.) See the discussion on the use of the knowledge/ignorance idioms in Sect. 6.2, and specifically footnote 15 of Chap. 6, for my ways of maneuvering all this.