

HOW OLD ARE THESE BONES? PUTNAM, WITTGENSTEIN AND VERIFICATION

Cora Diamond and Steven Gerrard

II—Steven Gerrard

ABSTRACT Hilary Putnam introduced a puzzle about a citizen of the 17th century who speculates that some mysterious bones are over a million years old. I compare this situation, where the speculation is ahead of the method of carbon dating, with speculating about (1) a mathematical theorem before there is a proof, and (2) a riddle before there is an answer. All these cases are helpfully illuminated by Meno's paradox and, especially, Wittgenstein's philosophy of mathematics. I draw some conclusions about Wittgenstein's methodology both in his philosophy of mathematics and his more general philosophy, focusing on the roles of local perspicuity and changing our way of looking at things.

In the seventeenth century, according to Cora Diamond's retelling of Hilary Putnam's fable, bones have been dug up at Whoozie.¹ A citizen of that century, felicitously named 'Leibniz', speculates that the bones are over a million years old. By context and by stipulation, two things are not controverted by the parties, real and imagined, in the debates in which Whoozie has a home: (1) *we*, thanks to twentieth-century carbon-dating techniques, *know* that the bones are at least one million years old; (2) *Leibniz*, thanks to the seventeenth-century lack of such dating

1. For the historian, here is Putnam's original formulation from the typescript of his unpublished talk 'Newton in His Time and Ours: Will the Real Richard Rorty Please Stand Up?':

For there are many statements that were in the language game before Newton whose verification became possible only in our own time. Thus, we may say, 'The skeletal remains found at Whoozie date back to at least one million B.C.' This statement could have been made in Newton's day (the words were in the language). So something like the issue Rorty considers can be raised by asking, 'Was this statement true before the invention of carbon dating?' Or is the statement true in our day and neither true nor false in Newton's day (as an instrumental philosopher of science might have it)?

Parts of Putnam's unpublished talk survived in the title article of his *Realism with a Human Face*, Harvard, 1990, including the five 'principles concerning warranted belief and assertion' which Rorty examines in 'Hilary Putnam and the Relativist Menace' in Rorty, *Truth and Progress*, Cambridge, 1998, pp. 43–62. (See Diamond's notes 2 and 3.)

techniques, could *not* know that the bones were at least one million years old. So this, then, is about neither the age of bones nor knowledge of the age of bones. What is the problem? The controversy is about the connections we make, or refuse to make: between ourselves and Leibniz; between ourselves and others. It is about the role of philosophy in helping or hindering us in making those connections, and whether the proper criteria can be set in advance of the particular case.

I

Let us first locate Whoozie on the philosophical map and characterize the visiting archeological camps. Diamond and Putnam are allies in a debate about *realism*. Positioning themselves in opposition to both *antirealism* and *metaphysical realism*, they consider those seemingly antithetical camps as recoiling results of the same mistakes and illusions.² The articulation of ‘a middle way between reactionary metaphysics and irresponsible relativism’³ has been one of Putnam’s prime philosophical projects for several years. Diamond has tied her approach to Wittgenstein’s, and has called the philosophical sensibility they share *the realistic spirit*. Putnam has also used that phrase,⁴ and as his view has evolved, the name has changed to follow pace: his position was first called (although not, originally, by him) ‘internal realism’, then ‘pragmatic realism’, and most recently (at least at this writing), simply ‘realism with a small “r”’.⁵

That last locution can help us to characterize one of the issues in Diamond’s paper. If it were not such an ugly term, liable to misunderstood kidnapping, we could call Diamond and Putnam comrades in the ‘decapitalization’ of philosophy. Having argued

2. As well as the same impulses. While discussing Rorty in ‘The Question of Realism’, Putnam identifies ‘a craving for an unintelligible kind of certainty (a senseless craving, one might say, but for all that a deeply human craving) [...]’, Putnam, *Words and Life*, ed. James Conant, Harvard, 1994, p. 300.

3. Hilary Putnam, ‘THE DEWEY LECTURES 1994: Sense, Nonsense, and the Senses; an Inquiry into the Powers of the Human Mind’, *The Journal of Philosophy*, Vol. XCI, No. 9, September 1994, p. 447.

4. Putnam, *Realism with a Human Face*, Harvard, 1992, p. 42.

5. See Hilary Putnam, ‘Replies’, in *Philosophical Topics: The Philosophy of Hilary Putnam*, ed. Christopher S. Hill, 1993, p. 353; Putnam, *Realism with a Human Face*, p. 26; Putnam, Dewey Lectures, p. 461, n. 36.

for realism without Realism, Diamond now is arguing for verification without Verificationism (and she is worried that Putnam has not been sufficiently attuned to this possibility).

Such orthographical niceties are likely to make sense only to the initiated, and it is one of the tasks of this paper to help explain them, but part of what is at stake here, as Diamond, Putnam, and Rorty all realize, is the grand question: *what is the role of philosophy?* All three have struggled over that question for years, searching for a proper characterization of philosophical method, and all three have frequently done so with reference to Wittgenstein. When Diamond writes in Part XI that '[w]e are, I suggest, making connections between activities of thought and talk which are different in certain ways', it can be no accident that she is echoing *Philosophical Investigations*, §122:

A main source of our failure to understand is that we do not *perspicuously overview* [*ubersehen*] the use of our words. —Our grammar is lacking in this sort of perspicuity [*Ubersichtlichkeit*]. A perspicuous presentation [*ubersichtliche Darstellung*] produces just that understanding which consists in 'seeing connections'. Hence the importance of finding and inventing *intermediate cases*.

The concept of a perspicuous presentation is of fundamental significance for us. It earmarks the form of account we give, the way we look at things. (Is this a 'Weltanschauung?')⁶

Early, middle and late, *perspicuity* was Wittgenstein's goal. What changed was the road to perspicuity: from the *Tractatus*' *Begriffsschrift* to the *Investigations*' perspicuous presentation of

6. Following Juliet Floyd's modified translation, who, in turn, is following Stanley Cavell, in 'Wittgenstein, Mathematics, and Philosophy', forthcoming in eds. A. Crary, R. Read, *The New Wittgenstein*, Routledge, Floyd masterfully connects Wittgenstein's *Investigations* discussion of perspicuity with his discussions of the perspicuity and surveyability of mathematical proof. Explicating *Investigations*: 122, Floyd writes that

the traditional philosopher's quest for an intuitive sense of the world as a whole, *sub specie aeterni*, will be not be satisfied by the kind of all-too-human 'perspicuousness' Wittgenstein's investigations offer. [...] Wittgenstein's philosophical spirit is nevertheless expressed in something more partial and limited than the traditional philosopher's goal: in '*Uberblicken*' which are limited, 'perspicuous' presentations within the world.

I have been profoundly influenced by this article, as well as by Floyd's 'On Saying What You Really Want to Say: Wittgenstein, Godel, and the Trisection of the Angle', in ed. Jaakko Hintikka, *Essays on the Development of the Foundations of Mathematics*, Kluwer, 1995.

intermediate cases. Nowhere is the local, particular, and contingent nature of Wittgenstein's perspicuity more perspicuous (or more Whoozie-relevant) than in the case of distinguishing between sense and nonsense.

From the *Tractatus* onward⁷ Wittgenstein rejected the notion that there is a perspicuity *sub specie aeternitatis*: there is no perspective (clear or otherwise) *from sideways on*, to use John McDowell's phrase.⁸ It is impossible (senseless!) to attribute sense apart from practices. Early, middle, and late Wittgenstein argued that words do not fit together, or fail to fit together, detached from human use. Both the superficial appearance of sense and the superficial appearance of nonsense require further, local investigation. Wittgenstein writes in the *Tractatus*:

Frege says that any legitimately constructed proposition must have a sense. And I say that any possible proposition is legitimately constructed, and, if it has no sense, that can only be because we have failed to give a *meaning* to some of its constituents.

(Even if we think that we have done so.)⁹

There are always two sides here (now a duck; now a rabbit): *we* are the ones who give words their sense, but also *we* are the one who may be fooling ourselves. G. E. Moore reports that in the early 1930s Wittgenstein said that

for any sign whatever there *could* be a method of projection such that it made sense, but that when said of any particular expression 'That means nothing' or 'is nonsense', what he meant was '*With the common method of projection*' that means nothing' [...]

and that Wittgenstein

insisted more than once that we are apt to think that we are using a new system of projection which would give sense to our words, when in fact we are not using a new system at all: 'any expression'

7. The situation in the *Notebooks* is less clear. I have discussed this and related issues in 'One Wittgenstein', forthcoming.

8. John McDowell, 'Non-Cognitivism and Rule-Following', in eds. Steven H. Holtzman and Christopher M. Leich, *Wittgenstein: To Follow a Rule*, London, 1981, p. 150. Putnam's favourite location for such a pseudo-perspective is 'a God's Eye View'. W. W. Tait calls this 'The Model in the Sky'.

9. *Tractatus* 5.4733. See also 3.326 and 6.211.

he said ‘*may* make sense, but you may think you are using it with sense, when in fact you are not’.¹⁰

In *On Certainty*, Wittgenstein challenges whether Moore’s philosophical uses of ‘I know’ makes sense, but is careful to add:

But now it is also correct to use ‘I know’ in the contexts which Moore mentioned, at least in *particular circumstances*. (Indeed, I do not know what ‘I know that I am a human being’ means. But even that might be given a sense.)

For each one of these sentences I can imagine circumstances that turn it into a move in one of our language-games, and by that it loses everything that is philosophically astonishing.¹¹

We will pick up some of the other bones later, but for now Wittgenstein’s continual emphasis on *particular circumstances* brings us directly back to Whoozie. As Diamond noted, the Whoozie controversy is related closely to Rorty’s remark in ‘Hilary Putnam and the Relativist Menace’ that ‘[w]ithout falling back into metaphysical realism [...] I cannot give any content to the idea of nonlocal correctness of assertion’.¹² Given Putnam’s project of searching for a “middle way” between antirealism and metaphysical realism,¹³ that claim is targeted to really sting. Can Putnam say Leibniz was right without falling back into metaphysical realism? As Diamond asks in Part XI: ‘If Rorty is recommending that we treat Leibniz’s utterance as not having a truth value, why should I object? Why should Putnam?’

10. G. E. Moore, ‘Wittgenstein’s Lectures in 1930–33’, in Wittgenstein, *Philosophical Occasions*, eds. James Klagge and Alfred Nordmann, Hackett, 1993, p. 58 and p. 59. Wittgenstein sometimes profitably discussed these issues by examining ‘fitting’: see *Wittgenstein’s Lectures: Cambridge, 1932–35*. From the Notes of Alice Ambrose and Margaret Macdonald, ed. Alice Ambrose, Chicago, 1979, pp. 144–146 and *Philosophical Occasions*, pp. 422–426. This sheds light on what is at stake in *Investigations* 138.

11. *On Certainty*, eds. G. E. M. Anscombe and G. H. von Wright, Blackwell, 1969, Section 622. An especially delicious imagined circumstance is in *On Certainty* Section 264, where Wittgenstein imagines Moore being captured by a wild tribe and insisting that he has always been on or near the surface of the earth!

12. Rorty, *Truth and Progress*, p. 60. Rorty adds that ‘[i]f we shift from correctness and warrant to truth, then I suppose we might say, noncontroversially if pointlessly, that the *truth* of what we say is not just for a time or place. But that high-minded platitude is absolutely barren of consequences [...]’. See Diamond’s note (3).

13. Putnam, ‘Pragmatism and Realism’, 18 *Cardozo Law Review*, pp. 162–163.

II

After that surface survey, let us refine the controversy by presenting some connections and intermediate cases of our own. Although Wittgenstein emphasizes differences, I will begin by highlighting a structural similarity among some seemingly disparate cases and the case of the strange bones at Whoozie.

The first is the case Wittgenstein examined throughout the 1930s: speculating about a mathematical proposition or theorem before there is a proof. Diamond explicitly compares this case to Whoozie in Part VII. After quoting some of Wittgenstein's discussion of Fermat's Last Theorem in *Remarks on the Foundations of Mathematics*, Diamond writes: 'In those remarks we can see that the problems about understanding a mathematical proposition before we have a proof are quite similar to the problems about talk of the age of the bones at Whoozie, before we have any method of dating the bones'.

Compare this to the task Meno set for Socrates: to determine whether *arete* can be taught before knowing what *arete* is.¹⁴ Meno impatiently pushes ahead, despite Socrates' protests, but finally Socrates gets Meno to see that there is a real problem here. The generalized version of this problem, as finally given by Meno, has earned the name 'Meno's paradox':

How will you look for it, Socrates, when you do not know at all what it is? How will you aim to search for something you do not know at all? If you should meet with it, how will you know that this is the thing you did not know?¹⁵

Socrates rephrases this as 'He cannot search for what he knows—since he knows it, there is no need to search—nor for what he does not know, for he does not know what to look for'. This is tantalizingly similar to a passage in Wittgenstein's *Philosophical Grammar*:

But when I'm 'looking for' something in mathematics, unless I am doing so *within* a system, what I am looking for cannot be described, or can only apparently be described; for if I could

14. I am convinced by Alexander Nehamas' 'Meno's Paradox and Socrates as a Teacher', *Oxford Studies in Ancient Philosophy*, 3: 1-30 (1985), that Socrates is not being duplicitous when he denies knowing what *arete* is.

15. *Meno* 80d5-8; Plato, *Complete Works*, ed. John M. Cooper, Hackett, 1997.

describe it in every particular, I would already actually *have* it; and before it is *completely* described I can't be sure whether *what* I am looking for is logically acceptable, and therefore describable at all.¹⁶

Socrates responds too mysteriously for Meno's tastes (in the underworld Meno evidently had absorbed Wittgenstein's claim that to a revelation no question corresponds¹⁷), but when Meno pleads, '[i]f you can somehow show me that things are as you say, please do so',¹⁸ Socrates focuses on first one *method*, and then another to bridge the gap between speculation and knowledge. Appropriately enough for my comparison, the methods that Socrates himself offers are *mathematical*.¹⁹

This gets us closer to refining the Whoozie problem. We so far have three speculators—Leibniz, a mathematician, and Meno—asking about three things: the age of the bones, a mathematical theorem, and the teaching of *arete*. In each case the searcher was speculating ahead of a method, a technique. Putnam's original answer to his own Whoozie query was:

Our picture—one which has as much weight in our lives as the idea that there are people out there, in the past, and in other cultures in the present, with whom we can communicate—is that, if a seventeenth-century person had ever entertained the possibility that the skeletal remains found at Whoozie are a million years old, that person would have been right, and if he had rejected it as absurd he would have been wrong.²⁰

16. *Philosophical Grammar*, ed. Rush Rhees, Blackwell, 1974, pp. 363–364. The editor notes that this is from a paragraph which has been crossed out in the typescript. See also p. 370: 'Tell me *how* you seek and I will tell you what you are seeking'.

17. *Philosophical Grammar*, p. 377:

Where there is no method of looking for an answer, there the question too cannot have any sense. —Only where there is a method of solution is there a question (of course that doesn't mean: 'only where the solution has been found is there a question'). That is: where we can only expect the solution of the problem from some sort of revelation, there isn't even a question. To a revelation no question corresponds.

See also Juliet Floyd, 'On Saying What You Really Want to Say'.

18. *Meno* 82a.

19. The first is the slave boy set piece from 82b to 85b and the second is at 86c: 'agree to investigate [...] by means of a hypothesis [...] I mean the way geometers often carry on their investigations'.

20. From the typescript NTO referred to in note (1).

Rorty, on the other hand, seems willing to assert that what Leibniz said was absurd—strictly speaking, *nonsensical*, because the method, the language-game in which ‘one million years old’ has a home had not been invented yet.²¹ On the map of Whoozie Rorty and Putnam draw the line between sense and nonsense in both a different place and in a different way.

III

Compare the cases above to the riddle of the peasant’s wise daughter, which Wittgenstein, Diamond, and Putnam have all discussed in the context of the mathematician.²² The king says to the peasant’s daughter: ‘come neither naked nor clothed’. She walks in wearing a fish net, winning the crown. It is crucial to both Diamond’s and Wittgenstein’s interpretation of the riddle that the king did not have an answer in mind before he posed it. ‘He did not really know what he wanted her to do’, Wittgenstein said, ‘but when she came thus he was forced to accept it’.²³ And Diamond writes: ‘There is not anything, present in our experience or thought of, which will of itself enable us to make the kind of connections we need to make to solve a riddle’.²⁴ In a significant amplification, she continues, ‘[f]urther, to know the solution to a riddle is not merely to know of something that thought of in *some* way or other it is the solution: you have to know *how* it is the solution’.

This brings us to the next stratum. Whoever excavates at Whoozie is destined to bring up not only bones, but also Wittgenstein’s *Lectures on the Foundations of Mathematics*.²⁵

21. Rorty has not, as far as I know, responded to Putnam’s Whoozie case in writing. I am therefore (perhaps unfairly) attributing a view to him on the basis of some of his other responses to Putnam.

22. Putnam, *Words and Life*, pp. 254, 256. See also Conant’s introduction to *Words and Life*, pp. xxxiv–xxxvii, and Floyd, ‘On Saying What You Really Want to Say’, p. 393.

23. Wittgenstein’s *Lectures: Cambridge, 1932–35*, p. 185

24. Cora Diamond, *The Realistic Spirit*, MIT Press, 1991, p. 270.

25. In NTO Putnam refers to Lecture XXVI of *Lectures on the Foundations of Mathematics*, ed. Cora Diamond, Chicago, 1984, (hereafter: LFM); in their 1996 Joint Session papers ‘On Wittgenstein’s Philosophy of Mathematics’, both Putnam and Conant make much of lectures XXV and XXVI (Putnam, *Proceedings of the Aristotelian Society*, Supplementary Volume LXX); Conant, *Proceedings of the Aristotelian Society*, Vol. XCVII. Diamond, of course, edited LFM.

Wittgenstein begins Lecture XXV with a discussion of ‘a false view of what a proof actually does’, and then asks us to ‘[c]onsider Hardy’s article (“Mathematical Proof”) and his remark that “to mathematical propositions there corresponds—in some sense, however sophisticated—a reality”’.²⁶ Wittgenstein does not dismiss the notion that lies behind this remark; he treats it with the same tender therapist’s care as he does the quotation from St. Augustine that begins the *Philosophical Investigations*. Wittgenstein surveys several possible senses that might be given to a *correspondence with mathematical reality*, beginning with the idea it only means that ““Mathematical propositions can be true or false””. To this Wittgenstein responds:

But this is plainly not Hardy’s point. If this is all that is meant by saying that a reality corresponds to mathematical propositions, it would come to saying nothing at all, a mere truism: if we leave out the question of *how* it corresponds, or in what sense it corresponds.

A proof does more than point. As Wittgenstein wrote in *Remarks on the Foundations of Mathematics*: ‘Proof, one might say, does not merely shew *that* it is like this, but: *how* it is like this.’²⁷

We are thus back to a method and a *perspicuous presentation*. In order to know *that* coming dressed in a fish net was a solution, the king had to see *how* it was a solution. It is no accident that in the original Grimm’s fairy tale there are more riddles: the wise daughter must also come ‘not riding, not walking, not in the road, and not off the road’.²⁸ By the time we reach the last riddle we do have something like a method. Indeed, it is part of the plot that toward the end of the tale the king recognizes the now queen’s cleverness and methodology in the mouth of another.

26. LFM, p. 239. In my ‘Wittgenstein’s Philosophies of Mathematics’, *Synthese*, 87, 1991, I labelled this the ‘Hardyan Picture’, modelling it on the *Investigations*’ Augustinian Picture. Parallel to Augustine’s statement about language in his *Confessions* is Hardy’s statement in his *Apology* that ‘I believe that mathematical reality lies outside us, that our function is to discover or *observe* it, and that the theorems which we prove, and which we describe grandiloquently as our “creations”, are simply our notes of our observations’. G. H. Hardy, *A Mathematician’s Apology* (Cambridge University Press, 1967), pp. 123–124.

27. *Remarks on the Foundations of Mathematics*, rev. edition, eds. G. H. von Wright, R. Rhees, G. E. M. Anscombe, Blackwell, 1978, (hereafter: RFM), p. 159.

28. *Grimm’s Fairy Tales*, Complete Edition, Pantheon Books, New York, 1944, ‘The Peasant’s Wise Daughter’, p. 438.

IV

‘A mathematical proof’, Wittgenstein said in *Lectures on the Foundations of Mathematics*, ‘persuades us by making certain connections’, and added later, ‘[a] mathematical proof connects a proposition with a system’.²⁹ This connection with a system, however, is only half the story. A little earlier Wittgenstein said: ‘What I am out to show you could be expressed very crudely as “If you want to know what has been proved, look at the proof” or “You can’t know what has been proved until you know what is called a proof of it”’. But then he crucially adds: ‘—But these are like exaggerations, partly true and partly false’.³⁰ The epigraph to Diamond’s paper from *Remarks on the Foundations of Mathematics* makes the same point: ‘Thus it is as if the proof did not determine the sense of the proposition proved; and yet as if it did determine it’.³¹

We need to be clear about this double-sidedness: there are two kinds of connections here. One side [the ‘*did determine*’] is the proof itself, the aspect that connects the theorem to the rest of the mathematical system. The other side [the ‘*did not determine*’] is the *mufti*, what connects the proof and the mathematical system to the rest of our lives:

I want to say: it is essential to mathematics that its signs are also employed in *mufti*.

It is the use outside of mathematics, and so the meaning of the signs, that makes the sign-game into mathematics.³²

29. LFM, pp. 134 and 137.

30. LFM, p. 39. See also RFM, p. 367:

I once said: ‘If you want to know what a mathematical proposition says, look at what its proof proves’. Now is there not both truth and falsehood in this? For is the sense, the point, of a mathematical proposition really clear as soon as we can follow the proof?

31. RFM, pp. 312–313.

32. RFM, p. 257. No amount of the second kind of connection will work without the first—the proofs. One cannot make mathematical claims by fiat, contrary to the view of Wittgenstein as the Bolshevik or anarchist of the philosophy of mathematics. Diamond and Putnam have both argued against Michael Dummett’s anarchist interpretation of Wittgenstein. I argued against Dummett in my ‘A Philosophy of Mathematics between Two Camps’, in eds. H. Sluga and D. Stern, *The Cambridge Companion to Wittgenstein* (Cambridge University Press, 1996). RFM VII, Section 10 (pp. 366–369) provides important textual evidence for Wittgenstein’s double-sided view of proof. See also LFM: 38–39.

This distinction and double-sidedness can help us better understand both Wittgenstein's methods and the Whoozie controversy.

Investigations 122 and 144 together form a concise overview of central aspects of Wittgenstein's view of the role of philosophy. The *Philosophical Investigations* consists of numerous interplays between teacher and student. (This is another similarity to the *Meno*. In the lost works of Plato, we can imagine Socrates and Meno sending the slave boy for a block, pillar, slab, and beam.) Toward the beginning of the rule-following sections, Wittgenstein imagines a poor pupil who has trouble writing the natural numbers in order. *A* tries various techniques to get *B* to understand, but finally Wittgenstein writes that 'here too our pupil's capacity to learn may come to an end'.³³ In Section 144 Wittgenstein switches pupils (to *us*) and asks what he could have meant by that statement about *B*'s capacity. In one of the most explicit statements of his own methodology, Wittgenstein writes that

—I wanted to put that picture before him [that is: *us*], and his *acceptance* of the picture consists in his now being inclined to regard a given case differently: that is, to compare it with *this* rather than *that* set of pictures. I have changed his *way of looking at things*. [...]

The last phrase resonates deeply in Wittgenstein's work and methods.³⁴ His goal of local perspicuity requires not philosophical theses or theories, but changing our way of looking at things. (Once more: now a duck; now a rabbit.) What makes this a *philosophical* goal and a *philosophical* method is that the method of getting us to switch is rational argument (without thinking that what counts as either *rational* or *argument* is set in advance of the particular case).³⁵

33. *Investigations* 143.

34. It also helps connect Wittgenstein with Pierre Hadot's way of interpreting some of ancient philosophy. See Hadot, *Philosophy as a Way of Life*, ed. Arnold Davidson, trans. Michael Chase, Blackwell, 1995.

35. Wittgenstein closed *Investigations* 144 with the mysterious parenthetical comment: '(Indian mathematicians: "Look at this'.)', which is explained in *Zettel* 461:

(I once read somewhere that a geometrical figure, with the words 'Look at this', serves as a proof for certain Indian mathematicians. This looking too effects an alteration in one's way of seeing.)

This would not, of course, count as proof for our Greek-descended geometry. See note 32 above. (*Zettel* 461 is quite similar to *Investigations* 144. Several of the pronouns which are in the second person in *Investigations* 144 are in the third person in *Zettel*.)

V

Leibniz, too, looks both ways. Analogous to the first aspect, the proof itself, is the verification of empirical propositions; and in this case in particular, the technique of carbon dating. Analogous to the second aspect, the *mufiti*, the life outside of mathematics, is the life played with such words as ‘old’, and the kind of life that forms hypotheses and looks for evidence. Diamond recognizes this. In Part XII she notes that we think of Leibniz as part of a scientific culture, with, we might add, historical continuity to our own scientific culture. ‘What makes the sentence an hypothesis at all’, she writes, ‘is that it is connected with the ways hypotheses are formulated and discussed, and methods for investigating them [...]’. She adds:

A criticism of Putnam, then, is that the idea of us having a picture of people communicating with each other over time and across cultures can lead attention away from how much or how little there may be in ascriptions of beliefs, beliefs specified in our language, to people distant from us.

This is a fair criticism of someone, but not of the recent Putnam. In his Dewey Lectures Putnam wrote:

There is a philosophical danger, however, of rejecting what is right in verificationism in the course of rejecting what is wrong with it. What is right in verificationism is that a great deal of scientific talk does depend for its full intelligibility on the provision of the kind of thick explanatory detail that is impossible if one has no familiarity with the use of scientific instruments. For example, in Democritus’s writings, as we know of them, the notion of an ‘atom’ was a metaphysical one, but one to which we can give a sense, even if Democritus himself could not.³⁶

Should we translate Democritus’s ‘*atomos*’ as ‘atom’? For reasons of history and linguistic kinship, we do, but we should

36. Dewey Lectures, p. 502. This is complicated by the history of Diamond’s piece; the earliest version was given as a response to Putnam twelve years ago, and Diamond and Putnam have since then continually cited and credited each other. Since Diamond and Putnam consider themselves friends and allies, I shall not worry about the questions of priority of influence. A section title of the Dewey Lectures is ‘THE ERROR (AND THE INSIGHT) IN VERIFICATIONISM’, and a section title of Putnam’s ‘Pragmatism’, *Proceedings of the Aristotelian Society*, Vol. XCV, 1995 is ‘Why there is, nonetheless, an insight in verificationism’.

also recognize that our atoms are contingently divisible, whereas Democritus's necessarily were not. This is a case of 'say what you choose'.³⁷

VI

I have been suggesting that there is a pattern to several apparently disparate cases, and that attention to Wittgenstein's methodology, both in the philosophy of mathematics and elsewhere, will help us see both what the issues are and why the issues matter. Before drawing my morals about Whoozie, I will further elaborate on the *Meno*, and then add a personal case that fits the pattern.

Having argued in geometrical fashion for the hypothesis that *arete* is knowledge, and thus that it can be taught, Socrates suddenly shifts and begins a new kind of investigation. 'I am not saying that it is wrong to say that *arete* is teachable if it is knowledge', he says to Meno, 'but look whether it is reasonable of me to doubt whether it is knowledge'.³⁸ Socrates' new, *reasonable*, investigation is whether the previous claim about *arete* can withstand an examination of contemporary Athens, whether it could be connected with Athenian lives. (Whatever its material definition, '*arete*', after all, bears some relationship to human flourishing.) If *arete* can be taught, Socrates reasons, then there *are* teachers of it. (It is part of the particular lesson that I am reading Wittgenstein as teaching that the move from *can* to *are*, from grammatical possibility to Athenian actuality, is not a modal fallacy.) When Anytus says he doesn't need experience to say the sophists are not such teachers, Socrates responds, 'Perhaps you are a wizard, Anytus, for I wonder from what you yourself say [i.e. that Anytus has had no experience of sophists], how else you know about these things'.³⁹ The practical search for teachers in the second half of the *Meno*, noting such points that good fathers would want good sons, thus acts as a counterpoint to the geometrical models of knowledge in the first half of the dialogue.

37. *Investigations* 79, which adds '[a]nd when you see [the facts] there is a great deal that you will not say'.

38. 86d.

39. 92c.

Diamond writes in her conclusion that ‘Putnam’s example of the bones at Whoozie is a particularly telling example, because the connections we make here between the speculator and ourselves reflect a shared human interest in understanding the strange things we find in the world with us’. Here is another example, closer to (my) home. Two summers ago, my daughter Laura, then four and a half years old, was sitting on the couch sucking on a popsicle. My other daughter Rachel, not nearly one and not nearly speaking, crawled over, made the most pathetic face possible, and squealed at Laura. Laura put the popsicle in front of Rachel, who licked it. At first Rachel recoiled from the cold, then she squealed again. Laura and Rachel took turns: Laura taking a lick, putting the popsicle in front of Rachel, Rachel taking a lick, smacking her lips, then squealing and reaching for more.⁴⁰ Laura and Rachel were having both (1) similar experiences, and (2) dissimilar experiences. It seemed quite clear to me that both Laura and Rachel were feeling cold on their lips, and that both could distinguish between the taste of the popsicle and the taste of the stick, and both preferred the popsicle. However, Laura alone could think, ‘I prefer grape to strawberry, this popsicle is better than pasta, popsicles are treats, the popsicle is somehow like winter’. Laura’s concepts (of popsicle and cold) belonged in a different network than Rachel’s, connected with a variety of linguistic concepts that were then no more available to Rachel than was carbon dating to Leibniz.⁴¹

We *can* refuse to make the connections between Laura and Rachel by looking at only the dissimilarities, the lack of a common vocabulary and linguistic network, just as we *can* refuse to make the connections between Leibniz and us by looking at only the verification side, the lack of a common scientific dating technique. But *why* refuse? It is a refusal to look the other way: toward our lives. Like the philosophers refusing to look through Galileo’s telescope because on *a priori* grounds they knew what they could not see, here the *mufti* side is ignored on *a priori* considerations expressed in a slogan: no nonlocal correctness of

40. Finally, Rachel became impatient, and grabbed the popsicle with her hands, breaking it all over the couch and the rug. But that’s not part of the philosophical story.

41. This relates to a disagreement between Putnam and John McDowell about the nature of experience. See the Dewey Lectures, p. 493, n. 17.

assertion. Yet, as Wittgenstein argued throughout his career, as the trio of quotations from my Part I pointed to, the line between local and nonlocal, between sense and nonsense, cannot be so drawn.

Wittgenstein wrote in *Investigations* 593: ‘A main cause of philosophical disease—a one-sided diet: one nourishes one’s thinking with only one kind of example’.⁴² In her conclusion, Diamond notes that ‘Wittgenstein is no verificationist’, and also points out that ‘[w]hat I have called the verificationist strand in Wittgenstein’s thought is properly seen as a matter of a philosophical technique, a technique for redirecting attention [...]’. It is the one-sided diet that leads to Verificationism. It is by looking only one way, and ignoring the other side, that one thinks that the sense of a mathematical proposition can be reduced to its proof, that the meaning of an empirical proposition can be reduced to its verification. But Wittgenstein not only argues against both reductions, his methods⁴³ of *Investigations* 122 and 144 provide an alternate strategy for understanding the world and the role of philosophy in that understanding.

Putnam is *not* arguing that we can always understand or communicate with each other. Diamond’s Friel example and the morning’s news (any morning’s) would refute such a claim. What Putnam *is* arguing is that, in general, there is no *a priori* or philosophical reason to say we *cannot* understand each other (or, conversely, that we *can*); and that, in particular, we do understand and can communicate with Leibniz, who is already part of a scientific culture.

Here is one last example in the pattern: the atheist and the theist who, like Leibniz and us, belong partially in different conceptual networks, and partially in similar ones. Suppose they are friends. ‘When people you love and respect differ from you over a matter of enormous importance’, Putnam writes in ‘God and the Philosophers’, ‘you have a profound responsibility, if you want to do justice both to who you are and to who they are’.⁴⁴

42. One way of expressing the double-sidedness is that we need both the particularity of *Investigations* 37 and the panoramic view of *Investigations* 584.

43. The passages from the *Investigations* provide the meta-statements of methodology. The discussions of proof in LFM and RFM provide the examples. I have not followed her in all particulars, but I learned this general lesson from Juliet Floyd.

44. *Midwest Studies in Philosophy*, Vol. XXI, The Philosophy of Religion, eds. French, Uehling, and Wettstein (University of Notre Dame Press, 1997), p. 180.

It would be a moral failure based on metaphysical illusion not to *try* to communicate. Can they succeed? That cannot be answered in a philosophical paper, but in the lives and moral imaginations of those who try.⁴⁵

45. My deep thanks to Juliet Floyd, Lydia Goehr, and Rachana Kamtekar for generously reading and criticizing an earlier draft.