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11 Wittgenstein, science, and the evolution of concepts

James C. Klagge

Wittgenstein came to Cambridge in 1911 to study with Bertrand Russell. Russell shared his views freely with Wittgenstein in course lectures, conversations and manuscripts. Wittgenstein also shared his reactions freely with Russell. Then in 1913 Wittgenstein went off to think and write on his own in Norway, remaining in contact with Russell until the Great War. But before he departed for Norway, in October 1913, Wittgenstein left Russell a record of his thoughts in the dictated manuscript(s) 'Notes on Logic'. There are different versions of the manuscript, but the so-called Costello version opens with a 'Preliminary' section as follows:

In philosophy there are no deductions; it is purely descriptive. The word 'philosophy' ought always to designate something over or under, but not beside, the natural sciences. Philosophy gives no pictures of reality, and can neither confirm nor confute scientific investigations.¹

In the course of the war there was no further contact between the two. Near the end of the war, early in 1918, Russell delivered a series of eight lectures in London, entitled 'The Philosophy of Logical Atomism', which, Russell said: 'are very largely concerned with explaining certain ideas which I learnt from ... Wittgenstein'. Yet in the final lecture, Russell offers an account of the relation between philosophy and science that is very different from Wittgenstein's:

I believe the only difference between science and philosophy is, that science is what you more or less know and philosophy is what you do not know. Philosophy is that part of science which at present people choose to have opinions about, but which they have no knowledge about. Therefore every advance in knowledge robs philosophy of some problems which formerly it had, and if there is any truth, if there is any value in the kind of procedure of mathematical logic, it will follow that a number of problems which had belonged to philosophy will have ceased to belong to philosophy and will belong to science... Just as there are families in America who from the time of the Pilgrim Fathers

onward had always migrated westward, toward the backwoods, because they did not like civilized life, so the philosopher has an adventurous disposition and likes to dwell in the region where there are still uncertainties. It is true that the transferring of a region from philosophy into science will make it distasteful to a very important and useful type of mind.²

It might seem that Russell is here reacting to Wittgenstein's view that philosophy and science are on different levels, but it seems equally plausible to suppose that Russell had offered this view of the relationship of philosophy and science much earlier in conversation or lectures, employing the metaphor of the pioneers and the settlers on the same plane, and Wittgenstein countered Russell's metaphor by insisting they (pioneers and settlers, philosophy and science) are on different planes.³

While Wittgenstein asserts that philosophy 'can neither confirm nor confute scientific investigations', one could just as well reverse the assertion and claim that scientific investigations can neither confirm nor confute philosophical positions. This is, in fact, how he puts the point years later, in the *Philosophical Investigations*: 'These are, of course, not empirical problems ... The problems are solved, not by coming up with new discoveries' (§109), and 'The name "philosophy" might also be given to what is possible before all new discoveries' (§126). Wittgenstein's position here is affirmed as a truth in its own right by Bennett and Hacker in their recent *Philosophical Foundations of Neuroscience*: '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'.⁴

This strict distinction between empirical and conceptual issues, then, implies that concepts that give rise to philosophical puzzles, like 'mind' and 'body', 'voluntary' and 'involuntary', 'reason' and 'motive', 'pain' and 'belief', are fixed by the conceptual criteria that give them meaning. Scientific investigation can at best give us an understanding of what may underlie or be correlated with them physically, but it cannot deepen nor change our understanding of the concepts themselves or the relationships between them. In addition, scientific investigation cannot undermine the concepts in the way that so-called eliminative materialists have claimed. To suppose that scientific investigation *can* have this sort of influence on our concepts is considered to be scientific, since science is imagined to have a power greater than it has. But to suppose that scientific investigation *should* have this sort of influence is also considered to be scientific, since science is valued inappropriately in relation to other humanistic modes of understanding.

Thus, there are two possible aspects to the charge of *scientism*: a conceptual aspect about what role science *can* play relative to our humanistic understanding, and a normative aspect about what role science *should* play relative to our humanistic understanding. The two aspects are related as

follows: The second, normative, aspect is an issue ('should science play this role?') only if the first, conceptual, aspect is a possibility ('science could play this role'). 'Ought' or 'ought not' implies 'could'.⁵

While opponents of scientism may oppose it in either aspect, opposing *both* is problematic. The opponent should be careful not to protest too much.⁶ The basic opposition would be to the first aspect. The thought is that such concepts have criteria associated with them that determine their application as a conceptual matter. These criteria are connected with rules of use for the concepts, so that *desire*, say, is criterially connected with one's behaviour, including linguistic behaviour. Science may contribute to an understanding of how desires get engineered in the brain and expressed by the body, but it has no role to play in telling us what a desire is, or what a person desires, since the notion of desire is already presupposed by any empirical investigation into a desire. As Bennett and Hacker warn, 'Nonsense is generated when an expression is used contrary to the rules for its use'.⁷

Two questions to ask about this assertion are: 'What exactly are the rules of use?' and 'Can the rules of use not change?' The example of *desire* illustrates these problems. Before the work of Freud it might well have seemed that someone with a desire had to be aware of the desire. That could have seemed to be a conceptual truth. Freud's work has made it seem natural to say that someone might have a desire of which they are unaware – an unconscious or subconscious desire. One might say that this shows that rules of use can change, and what was a conceptual truth about desire ceased to be so. On the other hand, one might resist this diagnosis, and hold that awareness of desire had never been a conceptual requirement. But then this raises the question of what the conceptual requirements are. This is not just an epistemological question about how we know the conceptual truths, though there is that question, but also a conceptual question about the nature of conceptual truth. In this case, what would make it the case that awareness was, or was not, one of the conceptual requirements for desire (at a given point in time)?

Given how closely Wittgenstein ties meaning to use, it would seem that what makes a truth conceptual is that we use the term in such a way that its application is *not* subject to empirical tests. But if some of us, say, scientists, start to use the term in such a way that it is subject to empirical tests – even if this is deemed a misuse at first – and if this use catches on and enough other people start using it that way, then it seems that what was a conceptual truth has ceased to be so. So it would seem that Wittgenstein's own account of meaning opens, rather than blocks, the path to these sorts of changes.

This sort of transformation might still be blocked in the following way: one could hold that the rules of use for a concept so fully fix the meaning of the concept that any supposed change in the rules would thereby entail that the concept itself had changed, and we are now concerned with a new, different, concept. This is the position that Wittgenstein takes in 1930: 'For

only the group of rules defines the sense of our signs, and any alteration (e.g. supplementation) of the rules means an alteration of the sense. Just as we can't alter the marks [*Merkmal*] of a concept without altering the concept itself. (Frege).¹⁸

But we need to ask what is meant by 'alteration [*Änderung*]', or more specifically, we need to ask how it comes about. An alteration could occur by a stipulation, or it could occur by evolution. When Wittgenstein discusses cases of alteration, he often means cases of stipulation. And about such cases he continues to hold that the alteration of rules alters the concept itself, and so does not solve the original problem. For example, and perhaps best known:

Imagine a physiological explanation of the experience ... You have now introduced a new, a physiological, criterion for seeing. And this can conceal the old problem, but not solve it.—The purpose of this remark, however, was to bring out what happens when a physiological explanation is offered. The psychological concept hangs out of reach of this explanation.⁹

This is clearly a case of stipulation ('You have now introduced a new ... criterion'). And this is the sort of case Bennett and Hacker have in mind in their discussion: 'A scientist is always free to introduce new concepts.'¹⁰

However, Wittgenstein himself drew a distinction between two types of alteration in his lectures in 1947. In the lecture notes Wittgenstein begins with: 'You consider the nature of something, say thinking or pain; it's a good idea to ask: Could this nature change in time?' He continues, according to Jackson's notes: 'This brings up the idea of changing the use. There seem to be two ways of changing usage: there is a trivial way, e.g. call a chair a picture; and a big way.' And according to Edwards's notes he continues: 'We may change the use in two ways, one important and the other trivial.' Wittgenstein is calling the 'trivial' way ('call a chair a picture') what I am calling *stipulative change*. He does not similarly illustrate the 'big [or, important] way', but according to Jackson's notes he then says: 'We are tempted to say that some concepts can't be changed ... But that won't do; it's experiential.'¹¹ This seems to me to open the way for usage to evolve through time. It is 'experiential' because we cannot say a priori whether such changes will occur or take hold.

In several places Wittgenstein considers the possibility of such (big, important) changes. During his Easter term 1939 lectures on the Foundations of Mathematics, Wittgenstein considers free will:

We have an idea of compulsion. If a policeman grabs me and shoves me through a door, we say I am compelled. But if I walk up and down here, we say I move freely. But it is objected: 'If you knew all the laws of nature, and could observe all the particles etc., you would no longer

say you were moving freely; you would see that a man just cannot do anything else'.—But in the first place, this is not how we use the expression 'he can't do anything else'. Although it is *conceivable* that if we had a mechanism which would show all this, we would change our terminology—and say, 'He's as much compelled as if a policeman shoved him.' We'd give up this distinction then; and if we did, I would be very sorry.¹²

The final sentence addresses both of the aspects of scientism that I distinguished earlier. Concerning the conceptual aspect, he admits that it is, indeed, 'conceivable' that our concept of compulsion could change in light of scientific investigation, but then concerning the normative aspect, he regrets such an imagined change.

How such a change could come about is addressed in an earlier lecture in the same course, in a discussion of the concept of 'mating' in chess with only two pawns:

... is it inconceivable that he should one day do something which he and everyone else would call mating? No, not at all. He might do something which we *now* should call 'not playing the game' but of which people then would say 'why yes, that's alright'.—It seems to me immensely unlikely and I'm not going to gamble on it, but it's conceivable.¹³

This, in fact, is quite consistent with Wittgenstein's so-called rule-following considerations. Whether someone is following a rule at a certain point is not timelessly determined by the rule itself (whatever that would mean), or by the intentions or judgments of those who formulated the rule, but by the judgment of the community of users of the rule at that point concerning the application in question.¹⁴ Of course, philosophers are not, nor should they be, in the business of making predictions about such matters; but Wittgenstein clearly allows for the possibility: 'it's conceivable'. And what is conceivable here is not just that the rules might change, but that even so they could be 'playing the [same] game'.

Wittgenstein gave a talk to the Cambridge Moral Science Club on 2 February 1940. The minutes, though lamentably brief, record that, 'Prof. Wittgenstein gave a talk on Causal and Logical Necessities. The chief point of the talk was to show how a proposition which is originally based on experience and accepted as empirical comes to be regarded as necessary and analytic'.¹⁵ I think the phrase 'comes to be regarded' is an indication of an evolutionary change in the concept.

But it is change in the other direction — seemingly conceptual matters becoming (more) empirical — that most matters in this context. Recall Bennett and Hacker's blocking assertion that 'conceptual questions are not amenable to scientific investigation'.¹⁶ In his Lent term 1941 lectures on Freedom of the Will, Wittgenstein considers a similar assertion: 'These statements

are not used as scientific statements at all, and no discovery in science would influence such a statement.' But Wittgenstein now hesitates: 'This is not quite true. What I mean is: we couldn't say now "If they discover so and so, then I'll say I'm free". This is not to say that scientific discoveries have no influence on statements of that sort. Scientific discoveries ... partly influence the direction of attention... A discovery might influence what you say on freedom of the will. If only by directing your attention in a certain way'.¹⁷ Changes in the direction of our attention bring about changes in concepts over time.

Then Wittgenstein considers an assertion from a scientific point of view: 'The knowledge of these laws would simply change the business.' Presumably this means: change how we think about the concept, say, of free will. And he now concedes: 'There is truth in that. One might say: being able to calculate things we can't calculate now would indeed change the whole situation'.¹⁸ Not, presumably, by directly answering our questions, but by (eventually) changing how we approach the questions.

As the Second World War continued, Wittgenstein began to lecture only part-time so that he could be a medical assistant in London, but eventually he took leave in 1943–1944 to do medical war work in Newcastle. Dr R. T. Grant was in charge of this work, and became friends with Wittgenstein. Concerning their many discussions during walks, Grant wrote: 'Often [Wittgenstein] gave one a whole new slant on a difficult subject, and specially when that subject was the relation between philosophy and science'.¹⁹

Wittgenstein's friend Rush Rhees reports on conversations: 'In 1944 he talked with me for several weeks about the relations of grammatical propositions and empirical propositions. He was working with the idea that the division between them was not a sharp one, and that his own earlier suggestions about this had been wrong or misleading'.²⁰

After the war and his retirement from teaching, Wittgenstein visited Norman Malcolm in Cornell, where he had numerous discussions with several philosophers on a wide variety of topics, in the summer of 1949. One of those involved, John Nelson, wrote: 'I remember too another more cursory discussion in which I participated: a sort of triangle of discussion between Malcolm, W., and myself. The topic was something like the relation of science and its methods to concepts, and in particular, the reformation of concepts. I think the discussion on concepts and science was one expressing W's particular philosophical concern at the time'.²¹

In what was clearly a different conversation, though on the same visit to Cornell, O.K. Bouwsma reports Wittgenstein's comments (10 August 1949):

First of all there is no opposition between freedom and causality. But there may be a conflict of attitudes towards some person, or towards ourselves. ... In any case, as I see it now, the real puzzle is that our attitudes, holding people responsible, praising, blaming, might be quite different from what they are, if we could actually see the succession of

causes at work. And this is about all there is to say. As it is now, we do have these attitudes. What would our attitudes be if we knew so-and-so? Who knows?²²

Wittgenstein asserts a possibility here, without commenting on its likelihood or its ultimate impact. These are not matters for a priori speculation.

The topic of these conversations is addressed in a scattered series of remarks Wittgenstein made in a pocket notebook in 1949, substantiating his interest in the topic at the time. (We should recall that with Wittgenstein's manner of writing remarks, we cannot assume that he is asserting each remark that he makes.) I here quote them extensively, citing the page numbers for later reference:

31: But if a way of seeing his nerves working were now found, wouldn't that really be a means of finding whether he is in pain? Well, it could give a new direction to the way we behave and could also correspond more or less with the old directions. ...

32: For it is conceivable that we could have access to criteria of pretence which are not in fact accessible, and that if they became accessible to us we would really take them as criteria. ...

36: If one were to see the working of nerves, utterances would mean little to us, and pretending would be different. ...

40: If as I was assuming people really could see someone else's nervous system working, and adjust their behaviour toward him accordingly, then, I believe, they wouldn't have our concept of pain (for instance) at all, although maybe a related one. Their life *would simply look quite different from ours*. ...

41: At first it could be said that it is our determination whether we see something as a definite criterion of pain (for instance), whether we see all of this as a criterion of anything at all. But then we have to say that the whole thing is *not* our determination, but is rather a part of *life*. ...

43–4: Could a legislator abolish the concept of pain? The basic concepts are interwoven so closely with what is most fundamental in our way of living that they are therefore unassailable.

47: Even if we *frequently* could guess someone's thoughts and were to say we know what they are, then the criterion for that could only be that he himself confirmed our guess. Unless we totally change the concept of thought.²³

Regardless of where one thinks Wittgenstein comes out, it is clear that he is seriously contemplating possibilities that are surprising to interpreters who assume they know Wittgenstein's position. The surprising possibilities are

not that we might know such-and-such about the nervous system, but that such knowledge might modify our criteria and our use of concepts.

Let me begin with the final quoted remark. Considering the possibilities laid out in prior passages, the ability to 'guess' someone's thoughts, in passage 47, can be construed as (or include) employing some information about the nervous system. The first sentence then asserts the position commonly associated with Wittgenstein, that, as one commentator puts it: 'there is ... no prospect of *replacing* the use criterion of understanding by a physical criterion ... use of brain states as evidence of mental states ... would ... be necessarily derivative and always answerable to the original behavioural criteria'.²⁴ But in the context of the other quoted remarks, that point seems limited to cases of stipulation. This is explicit in passage 43–4, for a 'legislator' would be engaged in stipulation. In other passages he seems willing to contemplate other possibilities of change, in which the change is not up to 'our determination' (the 'trivial way'), but happens 'as a part of life' (41). This seems to fit the notion of an evolution of concepts over time, under the influence of science, which 'could give a new direction to the way we behave and also correspond more or less with the old directions' (31). This suggests to me a family resemblance conception of the unity of a concept over time.

The scepticism expressed in the quote cited above from page 40 of Wittgenstein's 1949 notebook is addressed in another pocket notebook, MS 176, at the very end of Wittgenstein's life. On 14 April 1951, he remarks:

And if this way of getting to know someone else's pain were to have proved its worth, it's conceivable that one would apply it against a person's expression of pain, and thus would mistrust his expression if it contradicted that test.

And now one can also imagine that there are people who follow that method *from the outset*, and call *that* 'pain' which is ascertained by means of it. In that case their concept 'pain' will be related to ours, but different from it. (Of course it doesn't matter whether they call their concept by the same name as we use for our related one; it only matters that in their life it is analogous to our concept of pain.)

This analogue of our concept would then lack that uncertainty of evidence in ours. In *this* respect our concepts would not be similar.

(If we call that analogous concept 'pain', then these people can believe that they are in pain and also doubt it. But if someone were to say: 'Well, in that case there simply is *no* essential similarity between the concepts'—then we can respond: Here there are immense differences, but also great similarities.)²⁵

Just as one should not be an essentialist about the nature of concepts at a time, one should not be an essentialist about the nature of concepts over

time. Whether this deserves to be called the same concept depends on how the people at that time judge the importance of the similarities (and differences). It is not something we can predict, nor is it something we can a priori preclude. The 1930 passage from Wittgenstein quoted earlier in this chapter endorsing the conceptual essentialism of Frege turns out to be superseded by Wittgenstein's ongoing reflections about essentialism both for concepts at a time, through the notion of family resemblance, and concepts through time, through the notion of the evolution of concepts.²⁶

What is most striking about the many passages I have quoted is that over and over (four times) Wittgenstein calls scenarios 'conceivable' that Bennett and Hacker are anxious to label 'nonsense'. It turns out that the earlier statement of their view in 2003: 'Nonsense is *often* generated when an expression is used contrary to its rules of use', was more plausible.²⁷ Yet this qualified version of the view is powerless to resist conceptual evolution, since it requires a consideration of the details of each case. Hacker asserts: 'Philosophical problems stem from conceptual confusion. They are not resolved by empirical discoveries.' That much is true, but he continues: 'and they cannot be answered, but only swept under the carpet, by conceptual change'.²⁸ That is much more questionable, for it conflates conceptual change through evolution with conceptual change by stipulation. Dennett's response to this seems much closer to Wittgenstein's quoted remarks: '... empirical research doesn't *solve* them, it *informs* them and sometimes *adjusts* or *revises* them, and then they sometimes *dissolve*, and sometimes they can then be solved by further philosophical reflection'.²⁹

Let us return to the passage 43–4 quoted above: 'The basic concepts are interwoven so closely with what is most fundamental in our way of living that they are therefore unassailable'. Hacker affirms this when he says: 'This "conceptual framework" ... does not merely constitute our "conception of what a person is" – it makes us the kind of beings that we are'.³⁰ As a result, he holds that anyone who proposes changes to the concepts constitutive of our humanity 'saws off the branch upon which he is perched'.³¹ This issue too depends on the process by which the conceptual change takes place. In the quote from pages 43–4 of Wittgenstein's 1949 notebook the claim is immediately preceded by the scenario of a 'legislator' who abolishes 'the concept of pain'. And Hacker uses the telling image of sawing off a branch. Both of these indicate that a sudden and stipulative conception of change is being imagined.

But is there something self-undermining about articulating a scenario in which concepts evolve in such a way that typical humanistic concepts are no longer used, or no longer used in the ways with which we are familiar? Hacker claims that 'it is not a serious possibility for the study of human nature and behaviour to jettison the concepts that define its subject matter and the use of which is partly constitutive of its subjects'.

But jettisoning is, again, a sudden and stipulative approach. Can we contemplate a future in which there are no longer rational persons? I don't see why not. In the long run, our humanistic self-conception is not, after all, 'unassailable'. Such a future may be chilling. Indeed, Wittgenstein says he 'would be very sorry' if things went that way. But that is the normative aspect of scientism. As a conceptual matter, it would seem that one could 'advocate', say, for the *possibility* of such a scenario, without thereby emending the humanistic concept of 'advocate' in cement, as a permanent part of our conceptual scheme.

In one of his last remarks, Wittgenstein seems to be open to contemplating this sort of future:

And now the question remains whether we would give up our language-game which rests on 'imponderable evidence' and frequently leads to uncertainty, if it were possible to exchange it for a more exact one which by and large would have similar consequences. For instance, we could work with a mechanical 'lie detector' and redefine a lie as that which causes a deflection on the lie detector.

So the question is: Would we change our way of living if this or that were provided for us?—And how could I answer that?³²

Clearly here he doesn't, or doesn't any longer, take our concepts as we currently understand them to be 'unassailable'. He contemplates their possible evolution.³³ Although one might take his final interrogative answer to be dismissive of the possibility raised by the preceding question, I take it to be an appropriate acknowledgement that we are in no position to answer the question by a priori means. The question will be answered by those in the future, and the factors that will or might lead to such a change are unknown to us now. It may be that enough portions of our conceptual scheme remain in place that it is appropriate to say that we have reasons for such a change. Or it may be that such things change due to factors that cannot be characterized as rational. We may have reasons now for preferring one or another course in the future, but we can't now 'reach' into that future to determine its course by conceptual means.

So, Bennett and Hacker turn out to be opponents, not defenders, of Wittgenstein — at least as his thoughts developed in lectures, conversations and notebooks from 1939 through 1951. When Rush Rhees noted Wittgenstein's changing view about the distinction between grammatical and empirical propositions in 1944, he added: 'One time ... [Wittgenstein] said he felt it necessary after a time to go back and criticize and even change his earlier views on various points—"otherwise I would dry up."³⁴

The difference between Russell and Wittgenstein over the relationship between philosophy and science was left unresolved due to the intervention of the Great War. And when Russell wrote his Introduction to Wittgenstein's *Tractatus*, he did not pursue the matter. But I believe we can see

that in the last dozen years of his life, Wittgenstein came to a position that was somewhat more complex than was allowed by the original picture, which had philosophy on either a different (parallel) plane from science (as Wittgenstein then thought), or on the same plane (as Russell thought). Russell implied that science tackled the same questions that philosophy had formulated, and generally succeeded in answering them, thereby pushing back the frontier of the unknown. That seems to be a mistaken conception of the relationship between the disciplines. Wittgenstein's original conception of the disciplines being on different planes insured the insulation of philosophy from science, but perhaps that went too far.

Instead, perhaps we could characterize Wittgenstein's final conception of the relationship as follows. Think of the conceptual landscape for which philosophy is supposed to provide a synopsis [*Übersicht*] as a region of land with various climates, geographical features, vegetations and populations. Think of science as a sort of Johnny Appleseed — a sower of botanical seeds.³⁵ If a confluence of factors is conducive to the flourishing of certain seeds in certain places, then the landscape will be changed by the seeds. The seeds might lead to new growth that adds to the vegetation, or new growth that replaces old vegetation (as an invasive species does), or new growth that takes place wholly separate from old vegetation. It is possible that with the intervention of other factors (such as farmers), the new seeds might lead to hybrid species of vegetation. It may be that old vegetation is particularly resilient and resistant to the invasion of new species. Or it may be that farmers are particularly determined to stamp out new vegetation, or to cultivate it. Or it may be that the soil is not suited to the new seeds.

In any case, the new seeds may change the landscape. If so, the changes may be worth taking account of in a botanical survey of the region. But there is no telling what those changes might be, and whether they will be beneficial or detrimental.³⁶

If we adopt this picture of the relation between philosophy and science, then the position of Hacker is that the seeds cannot take root in this region, or cannot take root in a way that would alter the landscape in any noticeable way. The conceptual aspect of scientism would be the claim that such seeds *could* take root, and do so in a noticeable way. In this sense, I believe that scientism is true (though the term tends to have a negative connotation, so I am reluctant to endorse it as named). I believe that Wittgenstein also came to see this as possible.

The normative aspect of scientism would claim that it is beneficial that such seeds take root. (This presupposes the conceptual-scientific view that such seeds *can* take root.) Here the point is not whether science has good effects in general, but whether science has good effects *on the conceptual landscape*. In this sense it seems that Wittgenstein generally thought it was false — he thought that such conceptual effects were dangerous. However, that has not been the focus of this chapter.³⁷

Notes

- 1 This Costello version was printed as Appendix I in the original edition of Ludwig Wittgenstein, *Notebooks: 1914–1916*. The quoted passage appears on p. 93. A careful comparison of the Costello version with another version was undertaken by Brian McGuinness ([1972] 2002). McGuinness concluded (2002: 255) that the other version was closer to Wittgenstein's original dictation, and as a result, the other version was substituted as Appendix I in the second edition of the *Notebooks*, published in 1979. The quoted passages appear in a different arrangement on p. 106 in the second edition, buried among many other propositions. The Costello version was likely arranged by Russell (p. 255), or at least supervised by him (p. 258), and indicates to me the importance that Russell gave to Wittgenstein's comments on the relationship between philosophy and science. Recent work on the provenance of the versions of 'Notes on Logic' by Michael Potter (2009) does not change these conclusions. The second of the sentences quoted above is then used by Wittgenstein in 4.111 of the *Tractatus*.
- 2 Russell (1985: 35 and 154–5). Lecture VIII was delivered on 12 March 1918. The same point is made by Russell, but with a different illustration, in his 1912 self-described 'shilling-shocker', *The Problems of Philosophy* (1972: 155). A letter from Russell to Lady Ottoline Morrell (#388, 17 March 1912) makes clear that Wittgenstein read this book and disagreed with much of it (Russell 1992: xxviii).
- 3 Cf. Wittgenstein's comment about religious differences being 'on an entirely different plane' in *Lectures and Conversations on Aesthetics, Psychology and Religious Belief*, 53.
- 4 Bennett and Hacker (2003: 2): relevant portions reprinted in Robinson (2007: 4).
- 5 I first addressed these issues in Klagge (1989). I significantly expanded and updated, but did not revise, this account in Klagge (2011: chs. 7 and 9). I tried to keep these conceptual and normative aspects separate, but they are not entirely separable. The reader is referred to my book for fuller discussion of relevant issues.
- 6 So, for example, Hacker (2001: 78), where he says that 'it is sheer barbarism to suppose that the only forms of understanding are scientific and that the only respectable forms of explanation of empirical phenomena are theoretical'. Here he seems to inch towards a normative critique.
- 7 ~~Bennett and Hacker (2003: 12)~~. But while this edition was supposed to contain 'the unaltered text of the preface of *Philosophical Foundations of Neuroscience*...' (2003: 195), in fact the relevant sentence of the 2003 preface is: 'Nonsense is often generated when an expression is used contrary to the rules for its use' (p. 6, italics added). Daniel Dennett, in his response to Bennett and Hacker's 2003 book, quotes the qualified passage from there (in Bennett and Hacker 2007: 80 and 83). It is unclear to me whether the removal of the qualifier 'often' between 2003 and 2007 was intentional or accidental, but it is hard to see how it could be accidental.
- 8 *Philosophical Remarks*, 182. And see the contemporaneous remark from a lecture during Easter term, 1930: 'If I change the rules it is a different game and there is an end of it' (Wittgenstein 1980: 19 and 58) *Wittgenstein's Lectures: Cambridge, 1930–1932*, ed., D. Lee, University of Chicago Press, 1980, p. 19, and see also p. 58).
- 9 From §236 of 'Philosophy of Psychology—A Fragment', in *Philosophical Investigations*, Revised 4th edition, Blackwell, 2009, p. 221e. Previously cited as p. 212 of §xi of Part II of *Philosophical Investigations*, in earlier editions.
- 10 2003 edition, p. 6; 2007 edition, p. 11.
- 11 20 January 1947; A.C. Jackson's notes published in *Wittgenstein's Lectures on Philosophical Psychology*, ed., P.T. Geach, University of Chicago Press, 1989, pp. 291–2. Edwards's notes remain unpublished, but are quoted in my *Wittgenstein in Exile*, p. 192.
- 12 *Wittgenstein's Lectures on the Foundations of Mathematics*, ed., Cora Diamond, Cornell University Press, 1976, p. 242. (The word 'conceivable' is italicized in Diamond's edition.) Diamond constructed her version of the lecture from notes by four different students. It is, perhaps, noteworthy that Malcolm's notes do not include the (to my mind, significant) final two sentences. But without them, the qualifier 'in the first place' makes no sense.
- 13 *Wittgenstein's Lectures on the Foundations of Mathematics*, p. 148. The 1930 lecture note I quoted in note 7 *supra* had specifically pertained to chess: 'I might as well question the laws of logic as the laws of chess. If I change the rules it is a different game.'
- 14 Thus, we could enroll Wittgenstein among the opponents of the 'original meaning' theory of constitutional interpretation, propounded by the late US Supreme Court Justice Antonin Scalia.
- 15 Minutes taken by Casimir Lewy, published in 'The Wittgenstein Lectures', in *Public and Private Occasions*, eds. J. Klagge and A. Nordmann, Rowman & Littlefield, 2003, p. 315.
- 16 See note 4, *supra*.
- 17 'Lectures on Freedom of the Will (Notes by Yorick Smythies)', in *Philosophical Occasions: 1912–1951*, eds., J. Klagge and A. Nordmann, Hackett, 1993, pp. 440–1. We had originally conjectured a dating of Michaelmas term, 1939, for these lectures, but Munz and Ritter (2004) have noted a close correlation between these notes and those of Rose Rand (see 2004: 124 and 128) for lectures in January 1941.
- 18 'Lectures on Freedom of the Will (Notes by Yorick Smythies)' in *Public and Private Occasions*, 443.
- 19 Letter from R.T. Grant to Sister Mary Elwyn McHale, 25 October 1966, on deposit at Cornell University Library. I have an account of Wittgenstein's medical work in relation to his reflections on these topics in Klagge (2011: 94).
- 20 Rhees (2006: 262). Rhees parenthetically notes 'This was before Quine had published anything on these lines', indicating an appreciation of some similarity.
- 21 Letter from John Nelson to Sister Mary Elwyn McHale, 13 August 1966, on deposit at Cornell University Library.
- 22 Bouwsma (1986: 18).
- 23 *Last Writings on the Philosophy of Psychology: The Inner and the Outer, Volume 2*, Blackwell, 1992. von Wright conjectures that this pocket notebook, MS 169, dates from 'Probably first half of 1949' (in Wittgenstein (1993: 488)). It is noteworthy that a related passage in 'Philosophy of Psychology: A Fragment' (§318=PI Part II, p. 222) makes a similar point to that of the p. 47 quotation, but without adding the final sentence.
- 24 McGinn (1984: 116).
- 25 MS 176, in *Last Writings, volume 2*, p. 94e.
- 26 While Wittgenstein does not, as far as I know, use the phrase 'family resemblance' to characterize the unity of a concept *over time*, he did come very close. J.P. Stern reports Wittgenstein's comments at a meeting in November 1944, where the Homeric concepts of honour, valour, loyalty and justice were under discussion (in Wittgenstein 2003: 364):

Our terminology (so he began the argument) is neither identical to that of Homer, but also not entirely different from it. Surely the language of Homer is doubly strange to us, in terms of time and place—the analogy of a foreign language may well be literally correct, and yet in a certain sense it isn't correct

after all. We understand what Homer means when he speaks of the heroism of someone like Achilles or of the mourning of someone like Priam—not because these concern ‘eternal values’ or the ‘eternally human’ (as one of the speakers had maintained) but because we are connected to Homer’s world somewhat as by a rope. A rope, however, is not of *one* piece but consists of many interwoven, partially overlapping short strands of hemp of which none reaches from one end to the other.... The strength of the rope—our confidence that we really understand those terms—depends on the reaching-over and cutting-across of the particular, successively following usages of words; they produce what we call a tradition. And what is true for words like ‘virtue’ and ‘heroism’ (the speaker concluded), holds also for what people at different times called ‘history’, ‘philosophy’, and the like.

The imagery here of the strands of hemp that make up a rope is exactly like the imagery of the fibres that we twist into a thread in Wittgenstein’s characterization of family resemblances in *Philosophical Investigations* §67. Regarding Wittgenstein’s take on the evolution of the concept of ‘philosophy’, see my discussion of this Klagge (2011: 91).

27 Italics added. See note 7 *supra*.

28 Hacker (1990: 161).

29 Dennett in Bennett and Hacker 2003: 80.

30 Hacker (2001: 80).

31 Hacker (2001: 82).

32 *Last Writings, Volume 2*, p. 95e. This comes from MS 176, pp. 51r–51v, and is dated 15 April 1951. Late in 1949 Wittgenstein was diagnosed with prostate cancer and prescribed hormones and x-ray therapy. He felt that these had a negative effect on his ability to do philosophy. But in February 1951 he ended the cancer treatments and his mental abilities returned. On the day after he wrote the quoted remark, he wrote to his friend Malcolm (16 April 1951):

An extraordinary thing has happened to me. About a month ago I suddenly found myself in the right frame of mind for doing philosophy ... It’s the first time after more than 2 years that the curtain in my brain has gone up. Of course, so far I’ve worked only for about 5 weeks & it may be all over by tomorrow, but it bucks me up a lot now.

(Malcolm 1984: 134)

Wittgenstein died two weeks later, on 29 April 1951.

33 Actually, this passage seems to consider conceptual change to be possible even in a more sudden, perhaps stipulative, way. That would be consistent with the final sentence of passage 47: ‘Unless we totally change the concept of thought’.

34 Rhees (2006: 262).

35 Johnny Appleseed is an American legend, based on a historical person, in the late eighteenth and early nineteenth centuries, who actually planted a large number of apple trees in the Midwest, and in a significant way changed the botanical landscape of the Midwest.

36 On Wittgenstein’s views on radical historical contingency, see Cooper (2017).

37 This chapter has benefited from comments by Jonathan Beale, Mikel Burley, Gabriel Citron, Daniel Dennett, Ian James Kidd, and from discussion at the 5th Regional Wittgenstein Workshop, West Virginia University, October 2013.

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12 Wittgenstein, naturalism, and scientism

Benedict Smith

1. Introduction

Wittgenstein's contributions to philosophy include numerous remarks that indicate his attitude towards science and, in particular, the relation between science and philosophy. While Wittgenstein's views are not anti-science they do convey a staunch anti-scientism; indeed, he was 'certainly the least scientific of philosophers' according to Bernard Williams (2000: 493). Scientism, as I will focus on it, generally connotes an attitude of over-reliance and overconfidence in scientific methods as the exclusive routes to authentic knowledge in any field of inquiry.¹ In what follows I suggest that Wittgenstein's anti-scientism is, however, consistent with a form of naturalism.

It has been argued that scientism reflects a particular ideological orientation, one that cannot be warranted by scientific practice itself but is nevertheless committed to the epistemic superiority of such practice (Williams and Robinson 2015: 3). This orientation both reflects and fuels a pervasive (if not universal) cultural tendency which, following Williams and Robinson (2015: 6–7), can be generally characterized according to the following tenets:²

- 1 only scientific knowledge counts as real, warranted or genuine knowledge;
- 2 the epistemology and metaphysics of natural science is appropriate for all sciences, including social and human sciences;
- 3 science can plausibly aspire to provide complete answers to any question or problem that humanity faces.

These are accompanied by a fourth claim, one that is implicit in the other three and goes beyond the expression of overconfidence towards what scientific inquiry can achieve:

- 4 Scientism at least implicitly makes substantive – typically materialist – metaphysical assumptions about the nature of the world such that it can be the object of scientific understanding in the first place.

Wittgenstein and Scientism

Edited by Jonathan Beale
and Ian James Kidd

 **Routledge**
Taylor & Francis Group
LONDON AND NEW YORK