

## The River-bed of Thoughts and Conceptual Change

Stephen Burwood

(Talk for the IoE, 6<sup>th</sup> December 2023 - under construction)

1. **River-bed of Thoughts.** When Wittgenstein introduces the idea of a world-picture at §95, is he positing a framework for eternity—i.e., a singular, universal, and settled guiding mythology? The answer is clearly no, as implicit in his remarks is the recognition that alternative frameworks may be possible. These may be either world-pictures that are contemporaneous with our own (see the discussion on relativism) or those that are sequential. The idea of a world-picture and the accompanying mythology simile immediately precede one of the key metaphors in the whole of the discussion of Moorean truisms in *On Certainty*, the river-bed of thoughts. To quote Wittgenstein in some detail (OC §§96-99),

It might be imagined that some propositions, of the form of empirical propositions, were hardened and functioned as channels for such empirical propositions as were not hardened but fluid; and that this relation altered with time, in that fluid propositions hardened, and hard ones became fluid.

The mythology may change back into a state of flux, the river-bed of thoughts may shift. But I distinguish between the movement of the waters on the river-bed and the shift of the bed itself; though there is not a sharp division of the one from the other.

But if someone were to say “So logic too is an empirical science” he would be wrong. Yet this is right: the same proposition may get treated at one time as something to test by experience, at another as a rule of testing.

And the bank of that river consists partly of hard rock, subject to no alteration or only to an imperceptible one, partly of sand, which now in one place now in another gets washed away, or deposited.

This is a rich section, which contains a number of key ideas that connect with what he says elsewhere in *On Certainty*; but central to the metaphor is the acknowledgement of conceptual change, something that Wittgenstein is clearly referring to when he says, “the river-bed of thoughts may shift” (OC §97). The focus here is not on the changes that occur in any given individual’s understanding—which is the concern of, say, conceptual change theory in education—but changes in our collective understanding, as well as our shared behaviours, attitudes, practices, and institutions. We can reasonably equate Wittgenstein’s notion of a world-picture with the idea of a channel that directs our thoughts and determines the stance we take to the world. What the addition of the river imagery makes clear is that our world-pictures are dynamic and shape-shift over time.

2. **Dynamism and Mutability.** A suggestive aspect of Wittgenstein’s river-bed metaphor therefore is the picture of protean mutability it imparts. There is a natural affinity, therefore, between Wittgenstein’s river metaphor and the more famous philosophical river simile of Heraclitus; but there is also a very significant difference. Apart from the fact that both are concerned with change, the greatest similarity appears to be that both images occur in fragmentary notes and have been the subject of interpretative disagreement. “Upon those who step into the same rivers different and again different waters flow,” is what Heraclitus says, in Geoffrey Kirk’s translation.<sup>1</sup> This is a metaphysical claim about change in the world, whereas Wittgenstein’s concern was with change in our apprehension of things, and he rejected the Heraclitean claim as the sort of

---

<sup>1</sup> Geoffrey Kirk (ed., trans.), *Heraclitus: The Cosmic Fragments* (Cambridge: Cambridge University Press, 1954), fragment 12, p.367. This is usually accepted to be Heraclitus’ own words, unlike fragments 49a or 91.

metaphysical use of language from which he wanted to bring language back to its normal use.<sup>2</sup> Another possible point of divergence may be with respect to what, if anything, the images assume does not change. In part, this question depends on how we understand Heraclitus.

Plato interpreted Heraclitus as arguing that *all things* are in constant flux. Although influential, this interpretation was, according to Kirk, a mistake of emphasis on Plato's part. and that "what Heraclitus meant to illustrate in the river-statement was the coincidence between stability (of the whole river) and change (of the waters flowing past a fixed point), rather than continuity of change."<sup>3</sup> In other words, there is a stability that underlies all change and that the point was to contrast the fluidity and changeability of the water with the solidity of the river as a whole. Even though those who step into the river are washed by different waters, it is nonetheless the *same* river.

A difference between Heraclitus and Wittgenstein therefore emerges, Roger Shiner has argued, "when one compares their respective views over the fixedness of what is fixed."<sup>4</sup> Although both see change occurring against a more stable background of a river-bed, for Heraclitus, this acts as an eternal and unchanging fixed point of reference for understanding change in the world. The picture Wittgenstein's metaphor portrays, although similar, is more radical in that the bed of the river is itself not absolutely fixed—and certainly not eternal and unchanging<sup>5</sup>—but is also subject to alteration, even if this is imperceptible. Whether there are elements that remain invariant, even if the river-bed as a whole changes direction or in substance, and why this might be so, is an issue to which we will return shortly.

Relative to the other similes or metaphors Wittgenstein proposes, which offer a more rigid picture in terms of hinges, structures, frames, or scaffolding, this acknowledges the more fluctuating and somewhat less fixed nature of our world-pictures. This is no doubt related to what he says in the *Philosophical Investigations* about the inconstant nature of language and the multiplicity of language-games, where he reminds us that "this multiplicity is not something fixed, given once for all; but new types of language, new language games, as we say, come into existence, and others become obsolete and get forgotten" (PI 1 §23).

We all know that conceptual change occurs—after all, we see things very differently from our forebears and even more so from our remote ancestors—but an interesting aspect of Wittgenstein's metaphor is that it also suggests a way in which this change may occur. A key aspect of the dynamism of the river-bed is the way that descriptive empirical propositions can become sedimented and hardened into normative grammatical propositions—what he describes as 'propositions of the form of empirical propositions—and, conversely, how hardened grammatical propositions may lose their normative character and so become fluid. The idea of an empirical proposition hardening into a rule is one that Wittgenstein had toyed with a few years before, when thinking about arithmetical rules (RFM p.324), but here he expands on it a little further. It is an effect he calls petrification later in *On Certainty* (OC §657).<sup>6</sup> These tacitly understood, secondary metaphors of petrification, and what we could additionally term the liquefaction, of propositions is philosophically interesting and may prove to be contentious.

---

<sup>2</sup> *Cratylus*, 402a. In Benjamin Jowett's translation, Plato paraphrases Heraclitus as having said "all things are in motion and nothing at rest." Edith Hamilton & Huntington Cairns (eds.), *Plato: The Collected Dialogues* (Princeton, NJ: Princeton University Press, 1961).

<sup>3</sup> Geoffrey Kirk, op. cit., p.377.

<sup>4</sup> Roger A. Shiner, 'Wittgenstein and Heraclitus: Two River-Images', *Philosophy*, 49 (88), 1974, p.192. For this discussion, Shiner follows Kirk's interpretation of Heraclitus.

<sup>5</sup> Ibid.

<sup>6</sup> Wittgenstein's own term *Petrefakten* has been rendered as 'fossilized' by Anscombe and Von Wright in the standard English translation. However, this choice carries with it a connotation of exanimate redundancy, which is not present in the original. In this particular passage of *On Certainty*, the idea is once again raised with respect to the propositions of mathematics.

3. **Propositions of the Form of Empirical Propositions.** When discussing Moore, Wittgenstein starts to puzzle about the nature of the propositions expressed in Moore's truisms. In §51 he has the thought that a proposition of this form—and those expressed in the remarks he makes about them, such as “What could a mistake here be like!”—is not like an ordinary empirical proposition concerning states of affairs in the world. Instead, such a proposition appears to operate as “a logical proposition; for it describes the conceptual (linguistic) situation” (OC §51). Wittgenstein is here expanding on a theme that he also addresses elsewhere: in the *Philosophical Investigations* he speaks of a claim—“I can't imagine the opposite of this”—being, “something whose form makes it look like an empirical proposition, but which is really a grammatical one” (PI 1 §251) but also suggesting that it may acquire this status over time.<sup>7</sup> (NB. In this instance, he uses ‘grammatical’ rather than ‘logical’.)

As a logical/grammatical proposition, the language-games of knowing, doubting, being mistaken, and so on, does not apply to a Moorean truism. Instead, grammatical propositions such as this provide a framework for these language-games. Thus, in §96, he describes such propositions as “propositions of the form of empirical propositions”: i.e., their surface grammar suggests that they are about states of affairs in the world—i.e., they look like, or have the form of, ordinary empirical propositions—but we treat them differently from ordinary, empirical propositions. “They lie apart from the route travelled by enquiry,” and are “exempt ... from doubt” (OC §88; cf. §§341, 653, 666), so that these quasi-empirical propositions, “and not only propositions of logic, form the foundation of all operating with thoughts (with language)” (OC §401). These are the propositions that he says are hard and that form the bed of the river, along which the ordinary, empirical propositions flow as fluid propositions.

For example, although a proposition like “Here is a hand”, as Moore uses it, looks like any other proposition about states of affairs in the world—and essentially no different from one like “At this distance from the sun there is a planet”—he concludes that it “can't be called a hypothesis” (OC §52). “At this distance from the sun there is a planet” clearly is a hypothesis—i.e., it is a claim that is truth-apt, which we could investigate, find supporting evidence for, and which we could corroborate or falsify—but, although Moore's “Here is a hand” is something that is either true or false, it does not make sense to speak of an investigation, evidence, or corroboration in this case. A proposition such as this therefore appears to play a different role in our thought and in our lives. Rather than being an ordinary empirical claim that is descriptive of how things stand in the world, it is a logical or grammatical proposition that is descriptive of how things stand with the language-game (OC §§57-59, 167).

In this latter respect it is therefore actually *normative*: i.e., it is a ‘norm of description’ that reveals the logical/grammatical rules for the meaningful use of words (see also [Mistakes and Other Errors](#)) and shows where the boundaries of the language-game are. A bit later on, he says of such propositions,

The *truth* of certain empirical propositions belongs to our frame of reference. (OC §83)

It may be for example that *all enquiry on our part* is set so as to exempt certain propositions from doubt, if they were ever formulated. They lie apart from the route travelled by enquiry. (OC §88; cf. §210)

These ‘hardened propositions’ are some of the same—as those that he earlier said describe the inherited background of our world-picture—so this is just one of the ways Wittgenstein tries to describe the nature of these propositions and the status they have. Elsewhere in *On Certainty* he uses different similes and metaphors to try to capture this and, as we have already noted, these imply more rigidity. For example, he also speaks of them as belonging “to our frame of reference” (OC §83), as being “anchored in all my *questions and answers*” (OC §103), and later describes

---

<sup>7</sup> These are, in particular, the Moorean truisms that concern my body, the bodies of others, and other objects.

them as belonging “to the scaffolding of our thoughts” (OC §211); but also as being “like the axis around which a body rotates” (OC §152), or “as it were like hinges” (OC §341).

These different similes and metaphors suggest subtly different things about the nature of these propositions, so we should be wary of emphasising one to the exclusion of the others, or of thinking that one simile or metaphor fits all cases, or of generalising—especially if this involves succumbing to the philosophical temptation to offer a comprehensive theoretical explanation (cf. OC §321). Congruent with this is recognising the diversity within the broad range of commitments picked out by descriptions such as ‘hardened’ or ‘fluid’ propositions or ‘propositions of the form of empirical propositions’. As Wittgenstein reminds us, “Our empirical propositions do not all have the same status” (OC §167), and “Our ‘empirical propositions’ do not form a homogenous mass” (OC §213), and much the same could be said of propositions of the form of empirical propositions. Some of these are clearly Moore-like truisms, in that it is difficult or perhaps impossible to think how things could have been otherwise, while others wear their contingency more candidly, having visibly become hardened or are hardened only in certain contexts.

4. **Petrification and Liquefaction.** Central to the river-bed of thoughts metaphor is how the status of the hardened propositions that form the bed of the river may change over time. In §96 he makes it clear that propositions of the form of empirical propositions may not have been hard in the past but have become hard and others may have once been hard but have become fluid.

It is not difficult to think of examples where once fluid empirical propositions have visibly petrified into ‘propositions of the form of empirical propositions’ that form the channels of the river-bed. One of Wittgenstein’s own examples of a field of empirical inquiry that exhibits such hardening is anatomy—“or a large part of it,” he suggests (OC §666). “Isn’t what it describes, too,” he asks, “exempt from all doubt?” For example, consider the central statement of William Harvey’s circulation theory: “a continual movement of the blood in a circle is caused by the beat of the heart.”<sup>8</sup> When proposed by Harvey in the early seventeenth century, it was highly contested by his peers for a variety of reasons: many were committed to Galenesque medical doctrines, developed in the context of an ancient world-picture where systematic empirical observation was not considered an important component of enquiry, while others pointed to the lack of proof for the existence of capillaries, and yet others because they could not see its clinical usefulness.<sup>9</sup>

In contrast, this is now something considered so rudimentary that it forms part of our system of basic convictions. Although medical students will learn about the details of the circulatory system, the basic fact of circulation is not something one studies on a medical degree because it is safely assumed that students would know this already. To extend Wittgenstein’s metaphor, petrification of such a proposition occurs partly as a result of sedimentation and the laying down of subsequent results. Thus, the idea of circulation is something that has been sedimented by all subsequent anatomical and physiological discoveries—which tightly anchor it in a bonded network of related discoveries—so that it is now an unquestioned consideration in all medical thought and practice. In other words, “Everything speaks in its favour, nothing against it” (OC §4; cf. §§89, 118, 119, 191, 203, 421). Indeed, in many respects it has escaped the narrow bonds of medical discourse and has established a place in our lives beyond these. Another such medical example might be the germ theory of disease or, in different fields, the heliocentric cosmography of Copernicus (despite the best efforts of Luther, who wanted Copernicus burnt at

---

<sup>8</sup> This first statement of the circulation theory was found in Harvey’s 1616 lecture notes, *Prelectiones Anatomiae Universalis*. It was then elaborated and published in 1628 as *De Motu Cordis*. William Harvey, *Exercitatio Anatomica de Motu Cordis et Sanguinis in Animalibus*, Chauncy D. Leake (trans.) (Springfield, IL & Baltimore, MD: Charles C. Thomas, 1928).

<sup>9</sup> Steven A. Lubitz, ‘Early Reactions to Harvey’s Circulation Theory: The Impact on Medicine’, *Mount Sinai Journal of Medicine*, 71 (4), 2004, pp. 274-280.

the stake for heresy, and more recent flat-Earthers), or the notion of ‘deep time’ in geology (where the age of the Earth is counted in eons rather than millennia), or that water boils at 100°C at sea level, or the gradual accumulation of discoveries in other branches of science.

Empirical propositions that have hardened over time will be things that we are taught—in the foregoing cases most probably in school science classes—but there will be many other hard, river-bed propositions which we tacitly acquire, as we have seen already (**World-pictures and Mythology**, §4). And some propositions, it seems, may be somewhere on a continuum between hard and fluid—so the bank of the river may be composed, as Wittgenstein says, “partly of sand.” Alongside the sedimentation and petrification of propositions, the metaphor also indicates their liquefaction in certain instances—where they become less hard and more fluid, and perhaps with some finally evaporating into thin air. Rummaging around in the dustbin of science, we can also find plenty examples of this: Hippocratic humoral medicine (where illness was understood in terms of four bodily humours: blood, phlegm, black bile, and yellow bile), miasma theory (where illness was due to ‘bad air’), Ptolemaic geocentric cosmography (which placed the Earth at the centre of creation), or the creation over a brief period time of a young earth approximately 6,000 years ago. As our empirical knowledge grows, old certainties become unstable and fluid, and may eventually become obsolete and forgotten.

To complicate the picture still further, Wittgenstein suggests another dimension to the fluidity of propositions; viz., that some propositions may be sometimes descriptive and at other times normative: “the same proposition may get treated at one time as something to test by experience, at another as a rule of testing” (OC §98). Take a Moorean assertion such as, “Here is a hand.” In Moore’s use, it reveals itself as something like a grammatical rule, delineating the boundaries of the language-game. But could even this iconic Moorean assertion also be descriptive in certain circumstances? As Wittgenstein later reminds us, “one can imagine cases—even if they are very rare ones—where this declaration is not superfluous, or is only superfluous but not absurd” (OC §460) and part of the test for such cases, he suggests, is whether declaring such a thing is actually providing information, rather than emptily possessing the form of an informative statement.

Despite acknowledging this fluidity, in the example that follows, Wittgenstein appears to have difficulty in accepting that such a declaration could be anything other than nonsense. “This thing that looks like a hand isn’t just a superb imitation,” he imagines a patient saying to his doctor, “it really is a hand” (OC §461); but then suggests that the “background is lacking for it to be information.” However, consider a case where an amputee has been surgically provided with a donor hand and not a prosthesis (a medical procedure that was not available in Wittgenstein’s time). This declaration might be superfluous but not absurd, when spoken to his doctor, as it might be an understandable expression of surprised delight or revulsion.<sup>10</sup> And, furthermore, it might even be genuinely informative, if spoken to somebody else.

What this point therefore suggests is twofold: firstly, again, that we must remember the importance of use and context and, secondly, as there is nothing inherently certain about the majority of these truisms, that we cannot rule out in advance, or as a matter of principle, that many of them may have a use in some hitherto unforeseen context.

5. **Organic, Messy Evolution.** When Wittgenstein speaks of propositions becoming hardened or fluid—the petrification and liquefaction of propositions—he notes that “this relation altered with time” (OC §96). This strongly suggests that he was thinking of the process of conceptual change as an organic evolution, which is not to say that it proceeds at a regular, fixed rate, or that alteration is achieved smoothly rather than in fits and starts. We do not, therefore, need to posit a general account and so inaugurate a debate between something like gradualism or punctuated

---

<sup>10</sup> The curious case of Clint Hallam, the world’s first successful hand-forearm transplant in 1998, might be an example of the latter. <https://www.theguardian.com/uk/2001/feb/04/robinmckie.nickpatonwalsh>

equilibrium with respect to conceptual change.<sup>11</sup> A question about the rate of change is mainly one of temporal perspective, so that what looks gradual and smooth from an historical vantage point may look very different ‘close up’. What Wittgenstein says is perfectly consistent with the idea that there may be periods where the rate of change is faster or slower than others or, given the rather amorphous and complex nature of world-pictures, where the rate of change of different elements is concurrently different from each other.

Furthermore, given that a world-picture is something communal, a relatively gradual evolution in a collective, social perspective is also not incompatible, for example, with there being a sudden reorientation in an individual’s way of seeing things—perhaps something like an instantaneous and unstructured *Gestalt* shift, such as Thomas Kuhn argued happens during periods of revolutionary science, where the adoption of a new scientific paradigm means that “what were ducks in the scientist’s world before the revolution are rabbits afterward.”<sup>12</sup> Nonetheless, the fact is that such change in a communal world-picture is unlikely to be ‘clean’ or clear-cut in the way of a *Gestalt* shift, as Wittgenstein acknowledges by suggesting that there is no sharp division between the movement of the waters and the shift of the river-bed (see also the final section below). In fact, while this is certainly true at the level of communal change, it may also be the case, *pace* Kuhn, for those individuals involved in the process of change. This may be even especially true where, in historical terms, the shift in the river-bed has been dramatic and revolutionary, rather than just piecemeal and reforming.

As Merleau-Ponty reminded us, the historical process of conceptual change will be mostly anonymous and opaque and an older world-picture may continue to exert an influence beyond its ‘best by date’, even if it is not explicitly endorsed as being true.

The history of thought does not summarily pronounce: This is true; that is false. Like all history, it has veiled decisions. It dismantles or embalms certain doctrines, changing them into ‘messages’ or museum pieces. There are others, on the contrary, which it keeps active. These do not endure because there is some miraculous adequation or correspondence between them and an invariable ‘reality’—such an exact and fleshless truth is neither sufficient nor necessary for the greatness of a doctrine—but because, as obligatory steps for those who want to go further, they retain an expressive power which exceeds their statements and propositions.<sup>13</sup>

It seems that Wittgenstein would concur with the view that history does not offer a quick judgement of the rightness or wrongness of an idea and that older ideas might continue to exert an influence and find a use. “Further experiments,” he says, “cannot *give the lie* to our earlier ones, at most they may change our whole way of looking at things” (OC §292). In other words, there is no fleshless truth that provides a straightforward *modus tollens* and thus a secure and final refutation—as naïve falsificationism might have us believe—and, instead, there is a more general but somewhat less resolved change in perspective—note the qualification “at most”.

In addition, the lingering inheritance of old concepts and ideas that “retain an expressive power which exceeds their statements and propositions” appears to be precisely the sort of thing

---

<sup>11</sup> Self-consciously following Kuhn’s historical model of paradigm change in science, Stephen Jay Gould proposed the idea of punctuated equilibrium in evolution, in which periods of relative evolutionary stasis are interspersed by periods of accelerated change, in contrast to orthodox Darwinian gradualism. See Stephen Jay Gould, *The Structure of Evolutionary Theory* (Cambridge, MA: Harvard University Press, 1972). The idea has, in turn, been taken up by some political scientists to understand the pattern of change in public policy: e.g., Frank R. Baumgartner & Bryan D. Jones, *Agendas and Instability in American Politics* (Chicago, IL: University of Chicago Press, 1993). I am not about to propose a further extension of the idea.

<sup>12</sup> Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1962), p.110. This is an obvious reference to Jastrow’s duck-rabbit that we also find in Wittgenstein’s discussion of seeing an aspect in Part II of the *Philosophical Investigations*, pp.194-197, 199, and 205-206.

<sup>13</sup> Maurice Merleau-Ponty, ‘Introduction’, in *Signs*, R. C. McCleary (trans.) (Chicago: Northwestern University Press, 1964), pp.10-11.

Wittgenstein has in mind when he says elsewhere, “An entire mythology is laid down (*niedergelegt*) within our language” and notes that when the modern-minded Frazer, in *The Golden Bough*, uses terms such as ‘ghost’ and ‘shade’ to describe the beliefs of other peoples, he automatically turns to familiar terms in English with residual expressive appeal, rather than dry, secular descriptions (TS 213).

6. **Dredging the River-bed of Thoughts.** Another aspect of the process of change concerns what we might call the engines of conceptual change: i.e., the sort of factors that initiate change, push the process along and which may determine its general direction. Of course, history shows that there are diverse sorts of possible engines of conceptual change: fluctuating religious adherence, for example, as well as intellectual and theoretical innovation, technological invention, changes in social attitudes and values, as well as empirical discovery, as previously discussed above. So far, I have suggested that the process is gradual and organic rather than as something susceptible to deliberate, purposeful direction; but is this always the case? Can we act, more directly, as an engine of change? (And, in this instance, ‘we’ could be taken to mean *qua* philosophers, or more generally, *qua* anyone caught up in the currents of the river.)

In a recent paper, Paul Standish offers an interesting extension to Wittgenstein’s river-bed metaphor; one that raises this question and argues for a position that recognises a degree of voluntarism in the process and the prospect of purposeful modification. Standish speaks of the possibility of ‘dredging’ the river-bed of thoughts and suggests that this needs to be done continuously if the river is to be navigable.<sup>14</sup> This extension plays upon the fluctuating nature of world-pictures inherent in the original metaphor and further suggests a more bilateral and two-way relationship between ourselves and our world-picture: viz., although we inherit and do not choose our world-picture (OC §94), perhaps we can choose to modify it.

By suggesting the possibility of purposeful modification, the extension implicitly suggests a similarity to Quine’s model of conceptual change, at least in this one respect.<sup>15</sup> Standish wishes to resist an account of world-pictures where their constituent certainties are unchallengeable determinants of meaning and, instead, argues that world-pictures are living, ever-changing products of human creativity. As cultural artifacts this is certainly true. This latter point finds a degree of resonance in Quine’s emphasis that what he calls the web of belief “is a man-made fabric,” and the idea of dredging injects a degree of voluntarism and the possibility of revision into Wittgenstein’s original metaphor—as with Quine’s web, which we can choose to alter. How well, then, does this extension sit with the original?

It is true that there is an element of voluntarism present elsewhere in *On Certainty*, particularly when he repeats the idea “that knowledge is related to a decision” (OC §362; cf. §§146, 200, 368) and, like Quine, where he suggests that we don’t have to accept contrary evidence—not least evidence that appears to contradict something fundamental (OC §512). However, although the river-bed metaphor is compatible with voluntarism, it is not clear that this is a feature of the original metaphor—at least, not in any straightforward sense.

On the other hand, Standish is right not to take Wittgenstein’s injunction that philosophy leaves everything as it is too generally or too absolutely (Standish, 2017a, p. 263). Philosophical understandings have had a profound influence, not just on subsequent philosophizing, but on their broader cultural context. The influence is often anonymous and, as Merleau-Ponty reminds

---

<sup>14</sup> Paul Standish, ‘This is Simply What I Do Too: A Response to Paul Smeyers’, in: Michael A. Peters & Jeff Stickney (eds.), *A Companion to Wittgenstein on Education: Pedagogical Investigations* (Singapore: Springer, 2017), p.272.

<sup>15</sup> I am not suggesting that Standish would endorse simply equating Wittgenstein and Quine, even in this regard. Standish opposes naturalising accounts of the relationship of language to the world and regards these as being themselves a feature of a particular world-picture—so his own overall project is far from Quine’s naturalising one.

us, the history of thought is a history of ‘veiled decisions’, so that the philosopher is often engaged in uncovering these in an attempt to challenge and undo that influence, and one can clearly discern this activity in Wittgenstein’s work. The difficulty for the philosopher is a species of the anxiety of influence: the historical sedimentation of ideas and the anonymity of the process ensures we are never able to make a completely free assessment of them. Consequently, as Merleau-Ponty points out, a question as to whether a contemporary thinker is a Cartesian, say, or a Marxist, is all but meaningless and certainly does not admit of a simple yes or no answer (ibid., p. 9). In a sense, we are all Cartesians and Marxists now.

Thus, the historical sedimentation of ideas poses problems for dredging activities, and this is not just that results are unlikely to be clean—“enabling us to conclude that a theory is ‘verified’ or ‘refuted’” (ibid., pp. 9-10)—but also because the process of dismantling and embalming is so often veiled and anonymous, such that we are not sure where to dredge or if dredging has been successful or not. “Even in the sciences,” Merleau-Ponty continues, “an outmoded theoretical framework can be reintegrated into the language of the one which replaced it; it remains significant, it keeps *its* truth” (ibid., p. 10). While this may happen, there is a feature of scientific theories that distinguishes them from other doctrines—at least, in our scientific *Weltbild*. Verifying or refuting philosophical ideas is never clean in any case, one might argue, with the subject characterised by a relative deficiency of assured results and an apparent absence of progress. This may not be because science has straightforward access to an exact and fleshless truth, but in science we are capable of delivering a surety of outcome that eludes philosophy.

Conceptual change is a sociological phenomenon. Even where philosophical ideas exert an influence, this will depend upon those ideas being taken up and put to work by the wider community. The philosopher has no effective say over whether, or in what form, this might occur and for them to try and direct the course of the river-bed is as futile as linguists trying to direct the course of language development.

4. **A Lesson from History.** In order to consider an actual example of such change, let’s revisit William Harvey’s demonstration of the circulation of the blood (see §3). This might be considered to be a very general fact of nature that we have now fully incorporated into our general world-picture.

It might also be thought to be an episode that is a good example of conceptual dredging, purposefully cleaning the channels of Galenesque medicine—and especially so given the self-conscious advocacy of the ‘new philosophy’ by Harvey himself and many of his contemporaries, where they saw themselves as championing the methods of systematic empirical investigation we now call ‘science’ and overthrowing older forms of understanding. Thus, with the establishment of modern medical science, it appears that the river-bed of thoughts has shifted through deliberate human intervention and revision. And yet, even though people at the time were aware of a shift occurring, this was still something that gradually “altered with time.” We have already noted how it was highly contested when it was first proposed. It is also the case that even the central characters in the process themselves stood ambiguously on the edge of change. Harvey himself, for example, as well as being a pioneer of the new empirical method, was well-known as an Aristotelian and someone amenable to ideas in the natural magic tradition.<sup>16</sup> In fact, it was from this tradition that he took the macrocosm/microcosm analogy, which was central to his circulation theory. This analogy sees similarities between a large-scale system and a small one. The Renaissance natural magic tradition saw the human body as a microcosm and Harvey took the Earth’s weather cycle to be the corresponding macrocosm: thus, he thought, just as the Sun’s heat turns water into vapour, which rises, cools, condenses, and then falls again as rain, so the heart warms and changes the blood, which then cools in the body’s extremities.

---

<sup>16</sup> Andrew Gregory, ‘William Harvey, Aristotle and Astrology’, *British Journal for the History of Science*, 47 (2), 2013, pp. 199-215.

Therefore, while the perspective of hindsight allows us to see dramatic shifts in world-pictures, it also brings with it the ever-present danger that it may over-simplify the process and impose on history a false sense of consistency and inevitability. Consider the following assessment by an historian of the early modern period of the shift we have come to call the Scientific Revolution:<sup>17</sup>

Modern scholars often refer to the major change in the way people perceived and understood the natural world as the Scientific Revolution. If it was a true revolution, however, it developed slowly and unevenly. Its early roots stretch back to the late medieval period, and it becomes visible as a complex and monumental change in worldview only in the seventeenth century. The period with which [we are] concerned corresponds with many of the most dramatic events in the development of this ‘new philosophy,’ or science. The ‘natural philosophy’ of the classical and medieval periods and the ‘new philosophy’ that emerged in the early modern era often coexisted. At one moment a writer’s cultural reference might be to the older natural philosophy and at the next to the new philosophy, without any obvious concern for what the modern reader might regard as inconsistencies and contradictions.<sup>18</sup>

This general assessment of the shift in the river-bed to a recognisably modern, scientific worldview or world-picture is exemplified by the development of modern medical science and the story of Harvey’s proposal of circulation theory. Change was often slow, sporadic, and inconsistent, rather than directed and conclusive. This story shows how a shift to a modern, scientific world-picture was in part due to purposeful intervention but was mostly organic—consisting in innumerable veiled decisions and obligatory, small steps (in Merleau-Ponty’s terms) that added up to a monumental change. For this to happen, each small step must be retained—the change deposited and sedimented by other small steps, each of which has to be taken up by others and “prove its worth.”

5. **Reading §97 in Context.** In the river-bed of thoughts metaphor, when Wittgenstein says “I distinguish between the movement of the waters on the river-bed and the shift of the bed itself; though there is not a sharp division of the one from the other” (OC §97), there is an acknowledgement of the messy, organic process of conceptual change, and the difficulty in discerning when this adds up to a monumental change in world-picture.

The foregoing sentence in §97 is sometimes recruited by protagonists in a dispute about whether there is a sharp distinction between empirical propositions and rules. For example, it is understood by Moyal-Sharrock as Wittgenstein distinguishing between the fluid propositions that form the waters and the hard propositions that form the bed,<sup>19</sup> and she includes the passage as part of her case in establishing a clear *categorical* difference between empirical propositions and rules, rather than this difference being merely a matter of degree. In arguing this, she wishes to resist equating Wittgenstein with Quine. Admittedly, there is an ambiguity in the way Wittgenstein makes his point. Nonetheless, it is not at all clear that the sentence is about this issue, even if it speaks to it.

It is important to remember that this particular passage, as a whole, concerns itself with the fluctuating state of the mythology or world-picture. What is therefore being differentiated in the first part of this sentence is not the waters and the river-bed themselves but the *movement*

---

<sup>17</sup> Very roughly, the period from the Renaissance until the Industrial Revolution.

<sup>18</sup> Barbara H. Traister, ‘Science, Natural Philosophy, and New Philosophy in Early Modern England’, in Arthur F. Kinney & Thomas Warren Hooper, *A New Companion to Renaissance Drama* (Oxford: Wiley Blackwell, 2017), p.155.

<sup>19</sup> Danièle Moyal-Sharrock, *Understanding Wittgenstein’s On Certainty* (Basingstoke, Hants.: Palgrave Macmillan, 2004), p.138.

of the one and the *shifting* of the other. Wittgenstein then goes on to say in the second part, “though there is not a sharp division of the one from the other.” What is he referring to here by ‘the one’ and ‘the other’? Is the answer that, once again, he is referring to the movement and the shifting, or is he referring to the waters and the river-bed and the propositions that comprise the one and the other?

It might be argued that the answer to this depends on whether we read it as ‘backward-looking’ (i.e., relating to the first part of the sentence, and so referring to the movement and the shifting), or as ‘forward-looking’ (i.e., in light of §98, the following passage where he denies logic too is an empirical science and speaks of a proposition as being treated as empirical or as a rule). Roger F. Gibson, in his comparison of Wittgenstein and Quine, for example, appears to read it as forward-looking, when he says that “though Wittgenstein admits there is no sharp division between the propositions making up the riverbed and those comprising the waters, he tends to think of them as different in kind and not merely different in degree.”<sup>20</sup> One reason why we might be tempted to read it in this way is that §98 includes a “But (*aber*)”, indicating that it relates back to a previous remark.

However, this previous remark is more plausibly §96, where the blurring of the relationship between hard and fluid propositions is discussed, rather than §97 with its substantially different focus. I therefore submit that the most natural—indeed, I would contend, the obvious—way of reading the second part of this sentence in §97—“though there is not a sharp division of the one from the other”—is backward-looking. This treats this observation as a *continuation* of the thought expressed in the first part of the *same sentence*—something clearly indicated, following a semi-colon, by its introduction with “though (*obwohl*).” If we read the first part as referring to the movement of the waters and the shifting of the bed, then I fail to see how we can read the second part as doing anything other than the same.

On this reading of §97, what Wittgenstein is saying is that, although we can make a distinction between the hubbub of day-to-day, piecemeal changes in empirical discourse (the movement of the waters) and the larger-scale refashioning of our world-picture (the shift of the bed), there is not a clear division between these two. The relation between the waters and the river-bed can be thought of as dynamic and interactive: while the shape of the bed gives overall direction to the flow of the waters, this flow—with its many eddies and currents—is what, in turn, shapes the river-bed and bank. This last point, about the interplay between water’s movement and the alteration of the river’s boundary structures, is brought out clearly in §99:

And the bank of that river consists partly of hard rock, subject to no alteration or only to an imperceptible one, partly of sand, which now in one place now in another gets washed away, or deposited.

At the same time, parts of the river’s old boundary structures are washed away. However, history shows there are no guarantees that any of this will occur, so the process is not directable or smooth.

This reading does not settle Moyal-Sharrock’s question whether there is a *categorical* difference between empirical propositions and rules. As far as this question is concerned, the passage does not provide support either way because it is simply not relevant to it. On the one hand, when she emphasises the “I distinguish,” this reading shows that, in saying this, Wittgenstein is not differentiating between empirical propositions and rules. On the other, when he says, “there is not a sharp division,” it shows equally that he is not here attempting to conflate the two. There is always a danger that debates about what Wittgenstein intended, or what a particular passage means, achieve escape velocity, defying the gravitational pull of the text.

---

<sup>20</sup> Roger F. Gibson, ‘Quine, Wittgenstein and Holism’, in Robert L. Arrington & Hans-Johann Glock (eds.), *Wittgenstein and Quine* (London & New York: Routledge, 1996), p.93. This reading of Gibson’s reading is strongly suggested by the echoing of Wittgenstein’s phrasing in “no sharp division.”