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BELGRADE PHILOSOPHICAL ANNUAL 30/2017

PERSPECTIVES ON WITTGENSTEIN

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# PERSPECTIVES ON WITTGENSTEIN

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## MEANING AND METHOD

Linguistic meaning (*Bedeutung*) occupies a central role in Wittgenstein's work, throughout its various evolutions and revolutions. Meaning is the philosophically most important—interesting and puzzling—aspect of language. Now, any subject X can turn into a topic of philosophical reflection and thus precipitate a philosophy of X. But the concern with some topics is central to philosophy. Language is one of them. From Wittgenstein's perspective, its perennial importance has three distinct though related roots. First, there is the anthropological dimension. Philosophy is interested in language because of the latter's 'paramount role in human life' (BT 194–5, 413). Language is crucial to sustaining specifically human forms of communication and interaction. Secondly, there is the vexed relation between thought and language. There is an internal connection between thought and its linguistic expression. Language is not just a secondary means of expressing and communicating non- or pre-linguistic thoughts, it is its indispensable vehicle or medium. Qua rational beings, humans are therefore at the same time essentially language-using animals. Thirdly, there is the metaphilosophical connection. Philosophical problems, by contrast to those of science, arise not out of factual ignorance about reality, but out of confusions concerning the language in terms of which the problems are posed. In this sense, philosophical problems, claims, arguments and theories, by contrast to those of science, concern or are rooted in language rather than reality. For the *a priori* nature of philosophical questions and the necessary status traditionally claimed for philosophical propositions are to be explained by reference to linguistic rules. More specifically, the rules in question are semantic rules, rules which are constitutive of the meaning of expressions. As a result, Wittgenstein's thought revolves around issues of meaning, both as regards its metaphilosophical claims and as regards its philosophical practice.

My essay discusses the dynamic interaction between linguistic meaning and philosophical method. On the one hand, Wittgenstein's method relies on a certain conception of meaning and its connection to *a priori* problems and necessary propositions; on the other hand, this conception of meaning is shaped by his ideas about how philosophy ought to be done. At the end of this article I address the question whether this amounts to a vicious circularity that undermines Wittgenstein's later approach to philosophy. My

answer is that Wittgenstein's approach is defensible, but only if one abandons the misguided aspiration of establishing the proper philosophical method in a presuppositionless way.

## 1. Meaning and Philosophy in the *Tractatus*

No philosopher since Kant has thought as hard about the nature of the subject as Wittgenstein.

The *Tractatus* is devoted to two major themes, the essence of *representation* or *intentionality* on the one hand, the nature of *logic* and *philosophy* on the other. The two are interrelated. Wittgenstein followed Russell in identifying philosophy with the logical analysis of propositions. Furthermore, in the spirit of Kant's 'transcendental logic' he held that logic comprises the most general preconditions for the possibility of representation. We represent reality through thought. But the *Tractatus* breaks with the traditional view that language is merely a medium for transmitting pre-linguistic thoughts. Thought is intrinsically linked to the linguistic expression of thought (TLP 3, 3.1, 3.5, 4; see also PI §§ 329–30). Wittgenstein's first master-piece features a striking account of the essence of symbolic representation—the picture theory of the proposition—which at the same time furnishes a metaphysical account of the basic constituents of reality—logical atomism—a novel understanding of logic, and a revolutionary conception of philosophy itself. All meaningful propositions can be analyzed into logically independent 'elementary propositions'. The ultimate constituents of such propositions are unanalyzable 'names' (the simplest components of language). These names have as their meaning, i.e. stand for, indestructible 'objects' (the simplest components of reality). An elementary proposition depicts a possible combination of objects—a possible 'state of affairs'—by arranging names in a certain manner. If that possible state of affairs actually obtains, that proposition is true.

Empirical propositions have sense by virtue of depicting possible states of affairs. They are 'bipolar', capable of being true, but also capable of being false. By contrast, logical propositions lack sense. They are vacuous 'tautologies', since they combine empirical propositions in such a way that all factual information cancels out. 'It is raining' says something about the weather—true or false—and so does 'It is not raining'. But 'Either it is raining or it is not raining' does not (TLP 4.461). The necessity of tautologies simply reflects the fact that they do not make any claims the truth-value of which depends on how things actually are.

Finally, the pronouncements of metaphysics are not just senseless but 'nonsensical'. They are 'pseudo-propositions' which try to say what could not be otherwise, e.g., that red is a colour, or 1 a number. What they seem to exclude—e.g. red being a sound—contravenes logic, and is hence nonsensical. 'Most of the propositions and questions to be found in philosophical



works are not false but nonsensical' (TLP 4.003). On the other hand, what such metaphysical 'pseudo-propositions' try to *say* is *shown* by empirical propositions properly analyzed. In fact, the pronouncements of the *Tractatus* itself are in the end condemned as nonsensical. They lead one to appreciate the essence of symbolic representation. Once this is achieved, however, one must throw away the ladder which one has climbed up (TLP 7).

The *Tractatus* heralded the linguistic turn of twentieth century analytic philosophy. Metaphysics poses pseudo-questions that admit of no answer. The proper task of philosophy is not to answer these questions but to show that they violate the bounds of sense. 'All philosophy is a "critique of language"' (TLP 4.0031). Philosophy is not a 'doctrine', since there cannot be philosophical—*a priori* and necessary—propositions with a sense. It is an 'activity', a 'critique of language' by means of logical analysis. Positively, it elucidates the meaningful propositions of science; negatively, it reveals that metaphysical statements are nonsensical (TLP 4.0031, 4.112, 6.53f.).

The correct method of philosophy would actually be the following: to say nothing except what can be said, that is propositions of natural science—that is, something which has nothing to do with philosophy—and then, whenever someone else wanted to say something metaphysical to demonstrate to him that he had failed to give *meaning* to certain signs in his sentences (TLP 6.53; my transl. and emphasis).

Accordingly, semantic notions play a central methodological role in the *Tractatus*, albeit a critical one. They also feature in its positive account of the relation between language and reality which motivates the early Wittgenstein's conception of philosophy, the so-called picture theory of the proposition (see Glock 2006). Like Frege, Wittgenstein distinguished between sense (*Sinn*) and meaning (*Bedeutung*). Unlike Frege, he recognized that there is a crucial difference between names (and words more generally) on the one hand, propositions on the other. Propositions are not names; they do not refer to (*bedeuten*) a truth-value (Frege); nor do they stand for a fact (Moore). Conversely, simple names go proxy for objects directly, without the mediation of a sense (description). As a result, the *Tractatus* maintains that names have a *meaning but no sense*, while propositions have a *sense but no meaning* (TLP 3.142, 3.203, 3.3). The sense of an elementary proposition is the state of affairs it depicts, and it is a function of the meanings of its constituent names, this being one reason why the logical structure of language has to pay heed to the metaphysical constitution of reality.

It is clear, therefore, that the *Tractatus* was intimately concerned with linguistic meaning. It is all the more ironical, therefore, that the book put semantics on the index. For would-be statements about the essential preconditions that a system of signs must fulfill to depict reality would be necessarily true. They would thereby fall foul of the criterion of sense

implicit in the picture theory, according to which only bipolar propositions have a sense. As a result, the things which cannot be ‘said’, i.e. expressed by propositions with a sense, include the meaning of signs and that two signs have the same meaning (TLP 3.33/2, 6.23), what a given symbol signifies (TLP 4.126), and the sense of a proposition (TLP 4.022, 2.221). At the same time these things can be ‘shown’: they reveal themselves in bipolar propositions with a sense, provided that the latter are properly analyzed.

## 2. Meaning and Philosophy in the Later Work

On his return to philosophy from 1929 onwards, Wittgenstein took this linguistic turn in a different direction. As before, he regarded philosophy as an activity striving for clarity rather than a cognitive discipline resulting in theories or knowledge (LWL 1; AWL 225; RPP I §115). At the same time, he abandoned the idea that the essential features of reality that traditional metaphysics tried to ‘say’ something about can be shown through analyzing empirical propositions. And he replaced the mere promise of critical analysis by an elaborate and sophisticated dialectic practice. Philosophy dissolves the conceptual confusions to which philosophical problems are alleged to owe their existence.

This non-cognitivist picture appears to impoverish philosophy, and is generally considered to be the weakest part of Wittgenstein’s later work—slogans unsupported by argument and belied by his own positive ‘theory construction’ which can be isolated from the rest (e.g. Dummett 1978, p. 434). In fact, however, the impression that Wittgenstein’s methodological views are unsupported by argument arises from failure to recognize the connections which hold, firstly, between various aspects of his conception and, secondly, between his conception of philosophy as a whole and other parts of his later philosophy, notably his account of logical necessity and his understanding of language or grammar. Indeed, they arise from a coherent line of thought that can be reconstructed along the following steps:

A) Philosophy differs in principle from the sciences because of the *a priori* character of its problems.

B) Properly conceived, *a priori* propositions do not depict necessary states of affairs. Instead, they are ‘grammatical propositions’ that express ‘grammatical rules’ for the use of expressions. For the meaning of expressions and thereby our concepts are determined by such rules. As a result, philosophy is a second-order enterprise: instead of describing and explaining reality it is concerned with the ‘grammar’ that constitutes our conceptual scheme.

C) These rules are not responsible to an ‘essence of reality’; therefore, philosophy has no license to justify or reform our conceptual scheme on

metaphysical grounds, it can only explicate that scheme by describing our linguistic practices.

D) These descriptions cannot take the form of discoveries, theory-construction or decompositional analysis. They remind us of how we actually speak when we are not in the grip of philosophical puzzlement, of grammatical rules we are already familiar with as competent speakers.

E) Consequently, the main (though not necessarily sole) purpose of grammatical investigations and thereby of philosophy is critical and to that extent negative.

F) This critique is neither systematic nor does it make progress in the way science does.

In the next section I shall dwell briefly on (A) and at greater length on (B), the reason why philosophy is concerned with meaning.<sup>1</sup> The following sections turn to Wittgenstein's conception of meaning, and how it is shaped by his metaphilosophical views and his philosophical method.

### 3. Why Philosophy is Concerned with Meaning

In Wittgenstein's later work, matters of meaning are of paramount importance, not just implicitly but officially. He even declared the 'transition from the question of truth to the question of meaning' (MS 106, p. 46) to be central to his philosophical method. This is as clear and succinct a proclamation of the linguistic turn as one could wish for. Unlike its precursor TLP 4.0031 it explicitly makes the meaning of expressions central to philosophy. Philosophy is not in the business of establishing truths about reality, but of clarifying the meaning of those expressions which give rise to conceptual confusions and thereby to philosophical puzzlement.

Concerning (A), Wittgenstein insists, against empiricism and naturalism, that philosophy is *a priori* (LWL 79–80; AWL 3, 97, 205). Philosophical problems cannot be solved simply by empirical observation or scientific experiment. For they are *conceptual* rather than factual (Z §458; CV 79). They ultimately concern concepts mastery of which is a precondition of establishing new empirical facts; at the same time, such mastery does not guarantee the kind of comprehension required to avoid philosophical puzzlement (PI §89; see §§95, 428; BB 30–1; BT 435; RPP II §289; CV 4). Our concepts can change as a result of novel empirical discoveries; yet these will not resolve the problems arising out of the concepts prior to such conceptual change.

Turning to (B), our conceptual scheme is embodied in our language. More specifically, although concepts cannot simply be equated with 'meanings', to

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<sup>1</sup> For a sustained discussion of (A)–(F) see Glock 2017b.

specify what general terms like ‘mind’, ‘thinks’ or ‘is conscious’ mean is to specify *what concepts they express*, and *vice versa*. Consequently, to clarify the concepts expressed by our terms is to establish what these terms mean. And to do that is to articulate the rules of use that determine what expressions mean (see PI §§381–3). What Wittgenstein (misleadingly) calls the ‘grammar’ of a language is not confined to morphology and syntax; it is the overall system of logico-semantic rules, of the constitutive rules which determine what it makes sense to say in it (PR 51; LWL 46–59; PG 60, 133, 143; PI §496). Therefore, explicating our concepts and thereby our ‘form of representation’ takes the form of articulating semantic rules through grammatical propositions.

By determining what expressions mean, grammatical rules also hold the key to understanding apriority and necessity. Grammatical propositions *antecede experience* in an innocuous sense (PR 143; LWL 12; AWL 90). They can neither be confirmed nor confuted by experience. ‘Black is darker than white’, for instance, cannot be overthrown by the putative statement ‘This white object is darker than that black object’, since in established usage nothing counts as being both white and darker than black. This antecedence to experience renders intelligible the apparently mysterious ‘hardness’ of necessary propositions (PI §437; RFM I §121; PG 126–7). To say that it is logically impossible for a white object to be darker than a black one is to say that given our semantic rules, it makes no sense to apply ‘white’ and ‘darker than black’ to one and the same object.

#### 4. A Use Theory of Meaning?!

The later Wittgenstein did not just complete the linguistic turn. He also revolutionized analytic philosophy by following through another incipient idea of the *Tractatus*. It concluded the latter’s partial move away from a referential conception of meaning. According to this conception every meaningful expression stands for an object, the latter being its meaning. Wittgenstein’s main objections match the simplicity, if not the simple-mindedness, of this target.

Not all meaningful words refer to objects. The referential conception is modelled mainly on proper names, mass nouns, and sortal nouns. It ignores verbs, adjectives, adverbs, connectives, prepositions, indexicals, and exclamations (PI §§1–64). Moreover, even in the case of referring expressions, their meaning is not the object they stand for. If the meaning of a word were an object it stands for, referential failure would have to render a proposition like ‘Mr. N.N. died’ senseless (PI §40).

Finally, Wittgenstein presented a famous alternative to the referential conception. ‘For a large class of cases—though not for all—in which we employ the word ‘meaning’ it can be defined thus: the meaning of a word is

its use in the language' (PI §43). This famous passage is perplexing, especially as regards the restriction. If it applies to 'the meaning of a *word*', it is unclear either what kinds of meaning or what types of words are excluded. For better or worse, Wittgenstein had no qualms about ascribing meaning e.g. to proper names (e.g. PI §§40–2, 79). If the restriction applies to kinds of meaning rather than kinds of expressions, then Wittgenstein might have had in mind certain senses of 'meaning', notably natural significance as in 'These clouds mean rain', teleological significance as in 'the meaning of life' and speaker's meaning. The reference to 'use in a language' shows that PI §43 is concerned with the lexical meaning of type-expressions in a language. By contrast, PI §§432 and 454 appear to concern speaker's meaning. In the sequel, I shall first focus on lexical meaning. Speaker's meaning will make an appearance at the end, however. For both phenomena are important to Wittgenstein's philosophical methodology, that is, in his metaphilosophical claims and in his actual philosophical practice.

Wittgenstein's dicta on meaning and use are often taken to evince a 'use theory of meaning'. But Wittgenstein explicitly denied that philosophy should be in the business of constructing theories. Moreover, he was notoriously sceptical about 'What-is ...?' questions in general. Finally, his slogan 'Don't ask for the meaning, ask for the use!' can be read as an attempt to circumvent the question 'What is meaning?' in particular. I shall resolve this tension as regards its substantive though not its exegetical dimension. Wittgenstein's ambivalence and the proclivities of many of his followers notwithstanding, there is no merit in avoiding our title question. Fortunately, while Wittgenstein's reflections do not amount to a theory of meaning in the sense popularized by formal semantics, they suggest a viable account of the concept of linguistic meaning, namely through highlighting its connections with other concepts like those of rule, explanation and understanding.

The basic idea of a use theory is this: the meaning of an expression *e* is not a *bona fide* object—whether physical, mental or abstract—for which it stands; it is rather the use competent speakers make of *e*.<sup>2</sup> The idea that meaning is use not only informs—often implicitly—the philosophy of Wittgenstein and post-war conceptual analysis, it is also accepted by some of their opponents, notably Quine (1981, Chapter 5) and Dummett (1993b). It has often been taken for granted by field-linguists (e.g. Crystal 1987, p. 102) and is currently defended by eminent philosophers of language like Horwich (2005). Indeed, it is one of the few Wittgensteinian dicta which are immediately plausible (see below). Nevertheless, the claim that meaning is use has invited vigorous criticism from highly diverse angles. Sometimes Wittgenstein's followers try to bypass the latter *ab initio* by pointing out that he does not proffer a *theory* of meaning. This is correct, yet it does not immunize his remarks on meaning

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2 Unless otherwise specified (see Section 12), the variable '*e*' ranges over linguistic expressions, including both sentences and their components; simplifying, I shall refer to the latter as 'words'.

against criticism. Wittgenstein and other conceptual analysts profess to investigate the meaning of words. This presupposes a *conception* of meaning. Furthermore, that conception must at least allow of being spelled out in a coherent fashion, and hence of furnishing an *account* of meaning. This holds all the more so if philosophical investigations of meaning are contrasted with systematic theories (see Dummett 1993a, Chapter 14; compare Hanfling 2000, pp. 42–8). Whether meaning is the sort of thing one should have a theory about depends on the concept of meaning. It also depends on what is meant by a ‘theory’ in this context.

Traditionally, a theory of meaning was supposed to provide an analysis—in a suitably loose sense—of the concept of meaning and related notions. Theories of meaning in this ‘analytic’ sense include the referential theory, behaviorist and causal theories like that of Quine, verificationist theories, speech-act theories influenced by Austin, Grice’s theory of communication intentions. They also include Wittgensteinian accounts of meaning as use. These enterprises are theoretical only in a minimal sense. They provide more or less sustained and orderly accounts of the concept of meaning, as well as arguments in their support.

By contrast, in the wake of Davidson, formal semantics envisages a ‘*constructive*’ theory, notably for natural languages. Such a theory does not directly explain what meaning is. Instead, it generates for each actual or potential sentence *s* of a particular language a theorem ‘that, in some way yet to be made clear, “gives the meaning” of *s*’, and shows in particular how that meaning depends on that of its components (Davidson 1984, p. 23). Analytic theories of meaning should be compatible with the way the meaning of particular sentences is specified or explained. Yet unlike constructive theories they do not prescribe an algorithm for generating such specifications (see Glock 2003, pp. 141, 152–3).

Now, it is obvious that Wittgenstein’s conception of language is inimical to the very project of a constructive theory of meaning (see Baker and Hacker 1984). He also denied that theories had a role to play in philosophy. Arguably, however, that denial is based on an unduly narrow conception, which confines theories to those conforming to the hypothetico-deductive model supposed to characterize theories in the natural sciences (PI §109; cp. Hanfling 2004; Glock 2017, pp. 245–6). One might defend PI §109 on the grounds that any theory worthy of the name must provide *explanations* of its topic. But although Wittgenstein bans causal explanations philosophy, he insists that *explanations of meaning* have a role to play (see, e.g., LWL 38; PG 70; PI §§ 69–71, 75, 120, 339 and below). Furthermore, the substantive issue is whether linguistic meaning allows for or demands a theory in either a minimal or a more demanding sense, and what contribution constructive theories might make. Answering those questions requires an understanding of the concept of meaning that is philosophically serviceable, and thereby what I have called an analytic theory.



## 5. 'What is ...?'-Questions

Ever since Socrates, philosophers have been concerned with 'What is X?' and 'What are Xs?' questions, e.g. 'What is justice?', 'What is knowledge?', 'What is truth?' In response to these questions, they have traditionally sought analytic definitions of X(s). Such definitions specify conditions or features which are individually necessary and jointly sufficient for being X. Furthermore, these features should not just in fact be possessed by all and only things that are X; rather, only things possessing all of the defining features can be X, and anything possessing them all is *ipso facto* X.

Wittgenstein was adverse to 'What is ...?'-questions as posed in philosophy. Indeed, he suspected them—our title question explicitly included—of inducing a 'mental cramp' (BB 1). There are several important lessons to be drawn from his reservations; yet none of them disqualifies 'What is ...?'-questions *per se* or in general. First, we ought to shed the essentialist prejudice that one can clarify a concept only by providing an analytic definition (e.g. PI §§64–88; PG 119–20). Many philosophically important notions defy analytic definition. Fortunately, however, there are other respectable ways of explaining concepts, notably contextual, recursive and ostensive definitions, surveys of family resemblances and explanations by exemplification.

Secondly, we must avoid the Socratic mistake of thinking that a cast-iron definition of 'X' is needed in advance of further investigations (see TS 302, p. 14; PG 121–2), whether they be empirical theory-formation about the phenomenon X or philosophical reflection on the concept of X. On the other hand, we do need a grasp of what topic we are addressing. This requires at least a preliminary understanding of the meaning of 'X', an understanding subject to critical elucidation in philosophical reflection and modification in scientific theory-building. Small wonder, then, that Wittgenstein willy-nilly gave or suggested numerous answers to Socratic questions. By no means all of them are hedged with qualifications; and 'What is meaning?', along with related queries like 'What is understanding?', is very much included. Indeed, such a procedure is a prerequisite for dissolving or avoiding questions and theories of the metaphysical kind Wittgenstein regarded as misleading or confused.

Thirdly, some 'What is ...?'-questions are best addressed through pondering related questions rather than head on. As we shall see, such an indirect approach is crucial to a tenable use theory of meaning.

Still, setting out deliberately to answer 'What is ...?'-questions with their hoary complications and multiple repercussions remains alien to a strand in Wittgenstein's later thinking.

If one describes simple language-games to illustrate, let's say, what we call the 'motive' of an action, one will repeatedly be confronted with more complex (*verwickelten*) cases, in order to show that our theory

does not yet conform to (*entspricht*) the facts. Whereas more complex cases simply are more complicated cases. To wit, if a theory were at issue, one could indeed say: there is no use in regarding these special cases, they do not provide an explanation exactly of the most important cases. By contrast, the simple language-games play an entirely different role. They are poles of a description, not the basis (*Grundstock*) of a theory (RPP I §633).

As is his wont, Wittgenstein puts his finger on the crux of the matter. Unfortunately, his verdict is unwarranted. More complex cases need not occasion throwing up one's arms in despair. Nor do they license shrugging one's shoulders in the vain hope that exclusive contemplation of simple cases by itself will somehow resolve philosophical problems notorious for their complexity, e.g. through a mysterious kind of cathartic 'aspect change' or intellectual vision. Instead, more complex cases do indeed provide reasons for adjusting our 'theory'—i.e. analysis or explanation. We are called upon to fit the pieces of the conceptual jigsaw puzzle together. In this respect, conceptual analysts like Ryle, Austin and Strawson have the edge over Wittgenstein and many of his disciples. Note, however, that Wittgenstein himself counselled 'the quiet weighing of linguistic facts,' namely as an antidote to 'turbulent speculation' of a metaphysical kind (Z §447; see also AWL 48).

There is no philosophical point in being squeamish about 'What is ...?'-questions. After all, both Wittgenstein and conceptual analysts purport to resolve philosophical problems by elucidating the concepts in terms of which they are phrased. Next, although concepts cannot simply be equated with 'meanings,' to specify what general terms like 'mind,' 'thinks' or 'is conscious' mean is to specify what concepts they express, and vice versa (see Glock 2010, pp. 312–5). As a consequence, they are committed to a stance on 'What is X?'-questions, provided that these are understood as inquiries into the concept of X rather than scientific questions into what X(s) are like. By contrast, throwing in the towel and reveling in the diversity and alleged chaos of our linguistic practices can never be more than a last resort.

## 6. Eliminativism about 'Meaning'

Even if one leaves aside blanket qualms about 'What is ...?'-questions, one may feel no need to answer this question as regards meaning in particular. One can take the shortcomings of referential conceptions as an argument not in favor of a use theory, but of the view that the notion of meaning is misleading and obsolete.

Once again, one might invoke Wittgenstein's authority in support of this strategy of avoidance. He was fond of counselling: 'Don't ask for the meaning, ask for the use!' This slogan appears to manifest a downright refusal to engage with the nature of meaning. According to this interpretation, Wittgenstein



does not provide even an account of meaning, in linking meaning and use he was simply giving a piece of methodological advice. In investigating philosophically contentious terms the very notion ‘the meaning’ misleads us, since its nominal form suggests an object beyond the sign (this is even more obvious for *Bedeutung*, which derives from *deuten*, i.e. ‘pointing’). The concept of meaning is obsolete save for expressions as ‘means the same’ or ‘has no meaning’ (M 51–2; AWL 30; PG 56; PI §120).

A similar line was taken by Quine. He rejected the idea of mental or abstract meanings as ‘the myth of a museum in which the exhibits are meanings and the labels are words’ (1969, p. 27). That an expression is meaningful is not due to it being associated with an object which is its meaning. Rather, the ‘useful ways in which people ordinarily talk about meanings boil down to two: the having of meanings, which is significance, and sameness of meaning, or synonymy... But the explanatory value of special irreducible intermediary entities called meanings is surely illusory’ (1953, p. 11).

Warnings that the concept of meaning carries risks of reification are well taken. Nonetheless semantic eliminativism is doomed. We need at least a notion of linguistic meaning. This holds both for everyday life, where the notion of meaning serves to enable, facilitate and explain crucial aspects of linguistic communication, both within and across linguistic communities. It also holds for successful, semantically clear and epistemically controlled disciplines like formal logic, linguistics, parts of cognitive science, intellectual history, jurisprudence and at least certain branches of philosophy.

Not coincidentally, Wittgenstein continued to operate with the notion of meaning. More specifically, in line with the *Tractatus* he continued to write of the *Bedeutung* of words and the *Sinn* of sentences. Quine for his part availed himself of a behaviourist *Ersatz*, ‘stimulus meaning.’ But this marks a point at which the agreement between them ends. For neither outright eliminativism nor replacement by a more or less remote substitute is compatible with Wittgenstein’s methodology.

Replacing or modifying philosophically troublesome expressions like ‘meaning’ by a ‘logical explication’ à la Carnap or Quine will merely sweep the problems under the carpet, unless the explicatum is properly understood. Once we have elucidated the established concepts, we no longer require an artificial one (PI §130; Strawson 1963), unless the established concepts were semantically inadequate (obscure, incoherent). But if so, how could we introduce better ones? For these perforce need to be explained in terms already understood, ultimately in ordinary terms of a mother tongue (PI §120; Strawson 1992, pp. 10–16). Even if intensional notions like meaning could be explained in established extensional terms, or in terms less liable to tempt us into reifying ‘meanings’, elucidating the established notion would remain a propaedeutic precondition for logical explication.

Nevertheless, the numerous paradoxes and antinomies blighting philosophy show that some would-be concepts turn out to be incoherent. This holds for some concepts implicated in set-theoretic and semantic paradoxes (e.g. the purported significata of expressions like ‘heterological’ or ‘the set of all sets that are not members of themselves’). Arguably it also holds for the concept of God as conceived by traditional monotheism, the concept of free will as conceived by libertarians, the concept of a self as conceived by German Idealism, and the concept of a *quale* as conceived by contemporary philosophers of mind. Yet even if the corresponding expressions should no longer be used (as opposed to mentioned) for cognitive purposes, that drastic step must be preceded by clarification. We need to know at least what the expressions earmarked for elimination purport to mean and what role they were supposed to fulfil. *Mutatis mutandis* for methodological maxims like ‘Don’t ask for the meaning, ask for the use!’ They had better be based on a clear understanding of the concepts involved. For methods are cognitive instruments accountable to the topics to which they are applied – in our case the philosophically contested notions of meaning and of use.

## 7. Meaning, Use and Rules

Wittgensteinian strategies for evading an investigation of the concept of meaning are unprepossessing. There is no licence for shirking the question of how the meaning of an expression is related to its use, if conceptual-cum-semantic questions are tackled by investigating the use of the pertinent expressions. At the same time, many critics of the idea that meaning is use go astray in ignoring the fact that the pertinent concept of meaning is the one used in everyday parlance and in studies of language such as dictionaries and non-formal branches of linguistics, rather than the new-fangled concepts they may have introduced for diverse reasons, even if some of those reasons are sound. My use theory is to be measured against the same standard, namely whether its analysis of ‘meaning’ and of related terms conforms to the way in which they are used, explained and understood by competent speakers.

There are indeed striking connections between the established concept of meaning and linguistic use:

- whether an expression like ‘sesquipedalian’ means something in a given language depends on whether it has an established use in the linguistic community;
- what an expression means depends on how it can be used within that community;
- we learn what an expression means by learning how to use it, just as we learn how to play chess not by associating the pieces with objects, but (initially) by learning how they can be moved.

Arguably, the identification of meaning with use is untenable (Rundle 1990, Chapters 1 and 9 to 10; but cf. the spirited defense in Schroeder 2006, pp. 168–81). However, while some passages (PI §30, 138; PG 60; LFM 192) appear to identify meaning and use, others stop short of doing so (e.g. PI §§43, 139). Advisedly so! Although the notions of meaning and of use overlap, they diverge in important respects. Some of these differences are accommodated by keeping in mind the contrast between use in the sense of ‘employment of a sign-token’ and use as ‘way of using’ or ‘manner of use’ (OC §61); as well as Ryle’s parallel distinction of ‘use’ and ‘usage’ (1971, ch. 31). The semantically relevant notion of use is that of a way of using a type-expression, its method of employment. By contrast, usage is constituted by the prevalence or non-prevalence of this method of employment in a certain linguistic community. While certain social pressures shape usage, it lacks at least one normative dimension of use: there is the misuse of expressions, but there is no such thing as the ‘misusage’ of an expression.

Another step towards aligning use with meaning also revolves around normativity. We must avoid reducing linguistic use to a causal process between speakers and hearers after the fashion of causal and behaviorist theories. The meaning of a type-expression does not depend on the actual causes or the actual effects of uttering a token of it, either on a particular occasion or in general (*pace* causal and behaviorist theories). Nor does it depend on the effects intended by the speaker, however complex and high-order they may be (the Gricean programme notwithstanding).

Suppose I tell you ‘Milk me sugar!’ This may well have the result that you stare at me and gape. Yet it obviously does not follow that this combination of words means ‘Stare at me and gape!’ It does not follow if this amusing effect can be repeated. Indeed, it does not even follow if I utter these words with the intention of bringing about this reaction (PI §§493–498). Meaning is a matter not of how an expression is actually used and understood, but of how it is or ought to be used and understood by members of a linguistic community. What is semantically relevant is the *correct* use of expressions.<sup>3</sup> This also puts paid to the popular yet short-sighted objection that meaning cannot depend on use because speakers frequently misuse expressions. Summarizing this normativist conception of use, the later Wittgenstein maintained that the linguistic meaning of an expression is ‘constituted’, ‘determined’ or ‘given by’ rules which lay down how it is to be used correctly (see M 51; PG 62–4; OC §§61–62; LWL 35ff.). The normative dimension of meaning is also one central message of Wittgenstein’s famous comparison of language to a game like chess (PI §108). On the one hand, like a chess-piece a token-word is a physical

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3 In this context, ‘correct’ does not mean *true* but rather something like *meaningful*. This calls forth the spectre of circularity. Glock 2018 attempts to dispel it in a way that parallels section 10 below, namely by invoking connective analysis. It also defends the normativity of meaning against other animadversions.

phenomenon. On the other hand, one cannot explain either the significance of a chess-piece or the meaning of a word in purely physical terms. Yet the difference between a chess-piece and a simple piece of wood or a meaningful word and a meaningless sound is not that the former are associated with an abstract entity or with a process in a separate mental realm. Rather, it is that they have a role in a rule-guided practice.

Unfortunately, a normative restriction of the pertinent type of use only goes some way towards resolving an underlying difficulty. 'Use (of a linguistic expression)' is a wider term than '(linguistic) meaning.' In pursuance of a correct account of meaning, this observation needs to be sharpened. There are at least three pertinent divergences (Glock 1996b, pp. 207–10). First, the notion of use has a wider extension, in that it applies to expressions like proper names and certain exclamations ('tally-ho', 'abracadabra') to which the notion of linguistic meaning arguably does not apply. Secondly, 'use' is acceptable in a wider range of sentence-frames: the correct way of using a word can involve gestures or be fashionable, but this cannot be said of its meaning. Thirdly, not all aspects of the use of a term are relevant to its meaning.

This last difference applies equally to use conceived in normative terms. Thus synonymous expressions can have distinct (rule-guided) uses. 'Cop' and 'law enforcement agent' are arguably synonymous; 'cop' does not mean tough law enforcement agent, for instance. But while 'cop' should not be used in a legal document, for example, there is no such convention concerning 'law enforcement agent'. Consequently, meaning does not determine use. At the same time, use determines meaning not causally, but conceptually - just as for Frege sense determines reference (see PI §§139, 197; PPF §§250, 303). While sameness of meaning co-exists with difference of use, every difference in meaning entails a difference in use. Or, to use a technical term in a loose sense, meaning *supervenes* on use. Given the use of a word, we can infer its meaning without additional data, yet not *vice versa*. One cannot tell from a dictionary explanation of 'cop' whether the term is frequently and unproblematically employed, e.g. in British court rooms or whether in that surrounding it is rare and subject to censure. By contrast, one can write the dictionary entry on the basis of a full description of the term's employment. Put in terms of the orthodox division of semiotics, the pragmatics of an expression includes its semantics, yet without being exhausted by it.

In short, there are undeniable differences between the way we use 'meaning of a word' and the way in which we use 'correct way of using a word.' As a result, the identification of meaning and overall linguistic use faces a fatal *dilemma*. On the one hand, if all aspects of overall use are semantically relevant, it follows that the two expressions do *not* mean the same. On the other hand, if not all aspects of overall use are semantically relevant, the identification of meaning with overall use is equally mistaken, since matters of use *exceed* matters of meaning.

At the same time, we can learn from the use of a word everything there is to its meaning; use remains the guide to meaning, and conceptual analysis, even of a revisionist kind, must start out from investigating linguistic use. The more modest version of the use theory leaves intact the methodological message that the meaning of expressions is to be established by looking at their use. Unfortunately, it does not remove the aforementioned problem, namely that the term ‘use’ *in vacuo* is too wide. But at least it brings the difficulty into sharper focus. We have settled for the idea that rule-guided use determines meaning, rather than being identical with it. A difference in meaning entails a difference in use, not *vice versa*. The paramount question therefore is: what aspects of our rule-guided linguistic practices are relevant to meaning; is there any aspect difference in which entails a difference in meaning?

## 8. Function, Role and Combinatorial Possibilities

There are various attempts to solve this problem. At least three of them—verificationism, inferential role theory and the idea of speech-act potential—are Wittgensteinian in inspiration or at least spirit. Unfortunately, they tend towards an overly restrictive conception of semantic rules, or so I argue elsewhere (Glock 2018). The immediately appealing option is to retreat to the more general idea that the meaning of an expression is linked to its role or function as determined by rules. But where to go from there? Remember, semantic rules should treat, for instance, ‘cop’ as equivalent to ‘law enforcement agent’ while pragmatic rules permit use of the latter yet not of the former in court or in a legal document. Appeal to role or function will not by itself overcome the difficulty, since an expression can have different kinds of roles. To mention just a few: expressions can have syntactic, psychological, social, institutional, legal and aesthetic roles. Along a different parameter, expressions can have a role in an idiolect or a role in a lexicon, and these roles can coincide or come apart.

One way of pursuing the idea of role or function that addresses this difficulty hails from Wittgenstein himself. He was aware of the need to single out the conceptually/semantically relevant aspects of our linguistic practices, to separate the ‘essential’ from the ‘inessential’ ones (RPP I §666). Commenting on a fictional language in which one and the same type of tool is called differently on different days of the week, he claims ‘not every use is a meaning.’ He suggests that what guarantees a difference in meaning is a difference in the function of the word, but admits that this idea is itself imprecise (LW I §289; see §§278–304; BT 152; LPP 291). He takes a first step in putting flesh on it by recognizing that what matters is not the function an expression has in a particular context of utterance or within the idiolect of an individual speaker, but function as conferred by rules governing a

whole language or linguistic community. Thus he explains both the sense of sentences and the meaning of words by reference to their ‘place’, ‘role’, ‘purpose’, or ‘function’ within an overall linguistic system or ‘grammar’ in his parlance (see BB 5; PG 59–63; OC §64).

But expressions have distinct types of roles even within a linguistic system, to wit: syntactic, morphological, semantic and pragmatic roles. Now, the syntactic dimension is intimately connected to the semantic one. The *Tractatus* recognized this connection. The ‘rules of logical syntax’ determine the combinatorial possibilities of terms. They specify for any given lexical element or (logically proper) ‘name’ with what other names it can be combined into elementary propositions with a sense. Yet they do so without talking about the relation between the name and the (simple) ‘object’ it stands for.

Rules of logical syntax specify with what other expressions a given one can combine to yield a sequence of signs that is not just grammatically well-formed (like Chomsky’s ‘semantic anomalies’, such as ‘Colorless green ideas sleep furiously’), but has a sense. Such rules are crucial to any workable use theory. According to an influential line of criticism, such theories are incapable of explaining complex sentences, since ways of using and conceptual roles are not ‘compositional’ (Fodor and Lepore 1991). For instance, the respective ways of using the expressions ‘the’, ‘cow’, ‘is’, and ‘radioactive’, do not determine the way of using ‘The cow is radioactive.’ Fortunately, a use theory is not committed to the erroneous claim that there are semantic rules not just for how words are to be used but also for how complex sentences are to be used. Semantic rules of use concern *lexical items*. At the same time, these rules specify, *inter alia*, how the item can be used within sentences and what contribution it makes to the latter’s senses. Someone who has mastered the use of “cow” knows, among other things, that: a) it is the name of a kind of animal; b) such a name can be combined with the definite article to form a singular term referring to a particular specimen; c) this singular term can in turn combine with the copula and an adjective to characterize the specimen it refers to. Someone who has mastered the adjective ‘radioactive’ knows, *inter alia*, that it can be meaningfully combined with singular terms referring to spatio-temporal objects, yet not with singular terms referring, e.g., to numbers, events or character traits. This is one of several respects in which the link between meaning and understanding (see section 10) props up a use theory.

## 9. Form of Life Holism

The *Tractatus* notwithstanding, however, confining semantic rules to those of logical syntax for the meaningful combination of words is too restrictive. The mere ability to manipulate symbols does not suffice for understanding, as Searle’s Chinese Room Argument shows. Furthermore, there could be rules for combining words without either these words or the resulting



combinations being meaningful, for instance in a play of words. In this respect, Wittgenstein's analogy between language and a game breaks down. Still, the difference between a meaningful use of *e* and a mere game involving *e* does not lie in the former being based on a connection between *e* on the one hand, and either mental processes or abstract entities on the other. It lies rather in meaningful uses of *e* being embedded in a practice. In a language-game, linguistic and non-linguistic actions are interwoven. Both are also embedded in the environment, notably through perception. As a result, unlike mere word-plays *bona fide* linguistic acts have a role or purpose within a 'form of life' (PI §273; see also Waismann 1965, pp. 158–9).

Alas, in developing this insight, the later Wittgenstein often errs in the opposite direction. Taking Frege's context-principle to extremes, he maintains that 'to imagine a language is to imagine a form of life' and that the meaning of a word is determined by its 'role in the whole life of a tribe' (EPB 149; see also e.g. RPP II §§16, 77). Admittedly, it may well be necessary to consider the overall role of a concept in a form of life for (certain) philosophical purposes. Nevertheless, a word's social role is not a determinant of *word-meaning*. The point is most palpable in the case of expletives. Sexual swear words have the same role in some linguistic communities as sacrilegious or fecal ones in others. But for the benefit of my readers, I shall refrain from laboring this case. More generally, the conditions something must fulfill to fall under a general term—the features it must possess—are crucial to its meaning. Now, the things possessing these features can obviously change their social role, without the application conditions and hence the meaning of the term being affected. And in some cases the new role of those instances of the term draws in its wake a new role for the term itself. Consider the contrast between two developments in the overall usage of a single expression. 'Gay' acquired a new meaning when it came to be used as a synonym for 'homosexual.' But that meaning has not changed since then simply because, mercifully, most of us now have learnt to use the term freely and without negative connotations.

## 10. Meaning, Explanation, and Understanding

We have reached an impasse and need to pursue an alternative route. It exploits an unduly neglected aspect of Wittgenstein's reflections on meaning. The general idea is to elucidate the notion of meaning indirectly, through its conceptual connections to other pertinent notions (see Baker and Hacker 1980/2009, ch. II; Glock 2010, pp. 315–9). More specifically, Wittgenstein focuses on the connections between meaning on the one hand, and the explanations and understanding of specific expressions on the other.

'The meaning of a word is what the explanation of meaning explains.'  
I.e. if you want to understand the use of the word 'meaning', look at what is called 'explanation of meaning' (PI §560).

Prima facie, this is uninformative. If someone were to clarify what etymology is by saying that it is the history of an expression and then proceed with ‘the history of an expression is what the explanation of its history explains,’ wouldn’t we regard that as a rather tired joke? Similarly, for ‘The American Constitution is what the explanation of the American Constitution explains.’ But compare this last case to ‘The British Constitution is what the explanation of the British Constitution explains.’ This contrast indicates that a triviality can refer to more or less important and even essential aspects; the sentence just quoted does so for the nature of the British Constitution, *Philosophical Investigations* §560 for the nature of meaning. Simplifying somewhat: unlike the US constitution, the British constitution is *nothing other than*, nothing *over and above* what is explained by British courts. *Mutatis mutandis* for the meaning of an expression: it does not have an existence independently of the expression being explained, used and understood. That is why *Investigations* §560, though literally trivial, captures an essential feature of meaning.

To home in on this feature, one needs to follow up the truism with further elucidations. The first of these is that the explanation at issue is not causal. The explanation which is connected to meaning in a way that is both conceptual and illuminating is not an *explanation why* (an expression *e* means what it does). Instead it is an *explanation what* (*e* means) by way of explaining *how* (*e* is to be used).

There are three meta-semantic lessons. First, the meaning of ‘meaning’ is connected to that of ‘explanation.’ Secondly, the truism reinforces the claim meaning has a normative dimension, since semantic explanations have a normative status. They function as standards of semantic correctness and competence. Thirdly, as regards the proper way for determining the meaning of specific expressions: if you want to know which rules for *e* are semantic, look at which rules are invoked to explain the meaning of *e*.

Does that solve the problem of distinguishing semantic from other rules? Up to a point. Acceptable (notably lexical) explanations of ‘cop’ distinguish conditions of correct application from, *inter alia*, characterizations of legal legitimacy and social propriety. This is evident from, among other things, the entries in standard lexica. The *explanans* of such an entry explains or specifies the meaning of the *explanandum* at the start of the entry. That *explanans* will specify conditions of application, but not other rules concerning the *explanandum*. To be sure, after the *explanandum* there may be additional information about its use in parentheses. Some of these will be syntactic or morphological, for example, ‘(adj.)’ But others will specify features of use that qualify as pragmatic, for instance, ‘(colloq.)’ or ‘(pej.)’ or ‘(anc.)’ Even a parenthesis of that kind, however, falls short of specifying specific rules concerning the impropriety of ‘cop’ in a legal context. This is another respect, therefore, in which following up our apparently stale truism is illuminating: lexica provide a well-established, clear, and generally reliable, though by no



means fail-safe, way of distinguishing semantically pertinent from other features of use.

Wittgenstein's strategy for clarifying meaning also appeals to how competent speakers *understand* an expression. The meaning of *e* cannot transcend the understanding of competent speakers. That is to say, it cannot be at odds with explanations of that meaning which competent speakers are capable of proffering on reflection or at least capable of accepting when they are formulated by experts. Meaning is immanent rather than 'hidden' (see PI §§126–128). It is determined by how competent speakers understand *e*.<sup>4</sup> The connection of meaning to semantic competence and knowledge of meaning furnishes a second way of demarcating semantic rules: to single out semantic rules consider whether a speaker needs to be familiar with them to count as a competent user, in the sense of knowing what *e* means. Like the connection to explanation, it also highlights a normative aspect: competent speakers, users, or uses are those satisfying certain standards.

## 11. Connective Analysis

We have arrived at the following two conceptual connections:

*Meaning-Explanation (ME)*: The linguistic meaning of an expression *e* is what the explanation of *e* (as opposed to an explanation of the phenomena *e* refers to or applies to) explains.

*Meaning-Understanding (MU)*: The linguistic meaning of an expression *e* is what a competent speaker or user of *e* (as opposed to someone who knows everything about the phenomena *e* refers to or applies to) understands by *e*.

Both *ME* and *MU* provide criteria for identifying rules as semantic in a particular language. Alas, it is blatantly obvious that appeal to these criteria does not provide a non-circular explanation of what 'meaning' means. For in the sense pertinent to *ME*, 'explanation' must be understood as *explanation of meaning*, whether directly ('what the explanation of meaning explains') or indirectly ('as opposed to causal explanations...', etc.). *Mutatis mutandis* for *MU* and 'understanding.' The attempt to single out semantic rules appeals to conventions that can only be separated from other rules governing language by presupposing the notion of meaning. It would appear that the desideratum of demarcating semantic from other rules and the desideratum of analyzing the concept of meaning are mutually exclusive. Putting the point without reference to rules, Davidson complains: 'It is empty to say that meaning is use unless we specify what use we have in mind, and when we do specify, in a way that helps with meaning, we find ourselves going in a circle' (2005, p. 13).

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4 This claim needs to be defended against externalist approaches to semantics like those of Kripke, Putnam and Burge. See Glock 2017a.

At this juncture we should appeal to a distinct conception of conceptual analysis. Strawson distinguishes between ‘atomistic’, ‘reductive’, and ‘connective’ analysis (Strawson 1992, Chapter 2). Atomistic analysis seeks to break down concepts and propositions into components that are absolutely simple. Strawson repudiates atomistic analysis as ‘distinctly implausible’ (1992, p. 20). Reductive analysis tries to explain complex concepts in terms that are regarded as more perspicuous or less problematic from an empiricist or naturalistic perspective. Strawson resists this ambition on the grounds that the fundamental concepts with which descriptive metaphysics deals ‘remain obstinately irreducible, in the sense that they cannot be defined away, without remainder or circularity, in terms of other concepts’ (1995, p. 16). Strawson is right on both counts. Atomistic and reductive analysis seeks to break down concepts into simpler (in the case of atomistic analysis, ultimate) components and to unearth the concealed logical structure of propositions. Developments in the wake of the later Wittgenstein and of Quine (see, respectively, Glock 1996a; pp. 102–7; 203–8, 269–74 and Glock 2003; chs. 6–7) cast doubt on the quest to find simpler let alone ultimate semantic components for all our expressions.

We have good reasons, therefore, to abandon the idea that philosophical analysis decomposes or dismantles a complex phenomenon, and thereby the analogy to chemical analysis. Strawson’s alternative—connective analysis—is the description of the *rule-governed use of expressions*, and of their connections with other expressions by way of implication, presupposition, and exclusion. It need not result in definitions; instead, it can instead rest content with elucidating features which are constitutive of the concepts under consideration, and with establishing how they bear on philosophical problems, doctrines, and arguments.<sup>5</sup>

We were faced with a circularity involved in explaining meaning by reference to rules to be demarcated from other rules by appeal to linguistic-semantic explanation and understanding. But all explanations of meaning eventually move in a circle, either directly or indirectly. What is to be avoided is not explanatory circles *per se*, but rather those that are too narrow or unilluminating for other reasons. The circles—in turn interconnected—summarized by *ME* and *MU*, respectively, are not of this kind. They shed light on the problematic notion of meaning by reference to notions that do not invite reification and which are less confusing in philosophical contexts. Both also highlight normative dimensions of the concept of meaning of the kind that Wittgenstein was rightly keen on.

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5 Strawson not only articulated the method of connective analysis which vindicates the appeal to *MU* and *ME*, he also anticipated *ME* through his claim that ‘to give the meaning of an expression ... is to give *general directions* of its use’ (1971, p. 9). I am grateful for an anonymous referee for reminding me of this passage.

## 12. And the Methodological Moral of the Story?

Establishing the lexical meaning of philosophically troublesome expressions by way of describing their function in our linguistic practices is crucial to Wittgenstein's later philosophizing. The antidote to conceptual confusions is grammatical *reminders* of how we use words outside philosophy—'It makes sense to say "I know that she has toothache" or 'A dog cannot be said to believe that its master will return in a week'. These are articulations of rules that we have been following all along. Their point is to *draw attention* to the *violation* of grammar by philosophers. They are part of a *dialectical critique* of sense, an 'undogmatic procedure' which contrasts with the dogmatic insistence of the *Tractatus* that only certain combinations of signs *can* make sense because of the constraints imposed by the picture theory (WVC 183–6; see PR 54–5; PI §§89–90, 127; BT 419, 424–5 and below). Wittgenstein tries to show that his interlocutors use words according to conflicting rules, without relying on contentious views of his own.

Wittgenstein and his followers have provoked the complaint of setting themselves up as 'guardians of semantic inertia' (Gregory 1987, pp. 242–3) who criticize philosophical and scientific theories as confused simply because they diverge from ordinary use. These complaints ignore that by 'ordinary use' they do not necessarily mean *everyday use*; instead, they mean *established use*, whether it be in common parlance or in technical forms of discourse with a tightly regimented vocabulary (Ryle, 1971, ch. 23). Thus, Wittgenstein does not extol the virtues of everyday over technical language, or of the mundane everyday over the sophisticated specialized employment of a term. Nor does he prohibit the introduction of technical terminology in either science or philosophy. He *refrains explicitly* from criticizing philosophical positions merely for violating 'common sense' (BB 48–9, 58–9) or for employing novel terms or familiar words in ways that differ from the established patterns of use (see PI §254; RPP I §548; RPP II §289; LPP 270).

Rather, Wittgenstein insists that such novel terms or uses need to be adequately explained by laying down clear rules. He further alleges that metaphysical questions and theories—no matter whether propounded inside or outside of the academic discipline philosophy—get off the ground only because they employ terms in a way which is at odds with their official explanations, and that they trade on deviant rules along with the ordinary ones. In effect, Wittgenstein tries to confront metaphysicians with a *trilemma*: either their novel uses of terms remain unexplained (unintelligibility), or it is revealed that they use expressions according to incompatible rules (inconsistency), or their consistent employment of new concepts simply passes by the ordinary use—including the standard use of technical terms—and hence the concepts in terms of which the philosophical problems were phrased (*ignoratio elenchi*).

In a similar vein, Ryle intimated that conceptual analysis is interested less in language as a system (de Saussure's *langue*), than in the often obscure, slippery and equivocal uses (parts of de Saussure's *parole*) to which it is put in the course of a specific line of reasoning (1971: chs. 14, 24, 31). To that extent, philosophical method takes note of speaker's meaning as well as of lexical meaning. Its dialectical business involves drawing attention to the relations between the two in the context of philosophical investigations, including investigations outside of academic philosophy that have a conceptual dimension.

### 13. The Myth of Mere Method

So far so good. Connective analysis à la Wittgenstein, Ryle and Strawson can elucidate the notion of linguistic meaning without vicious circularity; it thereby underpins conceptual elucidation as a dialectic philosophical method. But this line of thought involves a different type of circularity, however. It concerns not the *explanation of semantic notions* but the *justification of a metaphilosophical view*. On the one hand, Wittgenstein's conception of philosophy as connective analysis relies on an understanding of meaning as determined by rules of use. On the other hand, this understanding is in turn arrived at by way of connective analysis.

Wittgenstein was aware of this problem. Alas, his attempts to solve it fail. In his early work, at least, he succumbed to what one might call the *myth of mere method*. This is the illusion that one can fashion philosophical methods in a presuppositionless manner, one which does not in turn draw on philosophical views, e.g. about logical necessity, linguistic meaning or the nature of philosophical problems. In the *Tractatus* the method, in particular an ideal notation for the analysis of propositions, is supposed to be put in place by propaedeutic claims about the essence of representation that are then disowned as nonsensical. In the *Investigations* it seems that the method and the metaphilosophical remarks describing it are supposed to emerge automatically as a spin-off from reflections on specific philosophical problems. But the *Tractatus* procedure is self-refuting; and the philosophical problems discussed in the *Investigations* only cry out for Wittgenstein's treatment on a certain understanding of their nature, an understanding which itself is philosophically contentious.

Consider just one looming circularity. Wittgenstein entreats us to address philosophical problems by looking at non-philosophical linguistic use. That recommendation depends on two ideas: the content of these problems (their constitutive concepts) is determined by the linguistic meaning of the expressions involved; and that meaning is a function of their use. These ideas are in turn supported by observations concerning the non-philosophical use of 'meaning', its cognates and related notions like that of what is said or

asked. We have reason to condone this particular circle, since it is difficult to envisage a better starting-point for clarifying or even modifying a notion like meaning than its established use. Nevertheless, in urging that point one cannot boot-strap oneself onto a privileged methodological plane immune to controversy.

The nature of philosophy is itself a contested philosophical issue, and views about this issue are philosophically controversial. The label ‘metaphilosophy’ notwithstanding it is not a distinct higher-order discipline, but an integral part of philosophy itself. One of his followers, Lazerowitz (1964/2004), theorized about philosophy from the external vantage point of psychoanalysis; yet thereby failed to address the *philosophical* issue of what philosophy is and should be. By contrast, Wittgenstein himself recognized this point (PI §121). Once it is acknowledged that one cannot engage in metaphilosophy without doing philosophy, however, the myth of mere method collapses. One cannot swim without venturing into the water. And one cannot address philosophical problems, the nature of philosophy included, without doing philosophy, and hence without philosophical arguments and commitments of one’s own. What one can do is to ensure consistency between philosophical methods, metaphilosophical and substantive views, and to argue for all of them in as plausible and unassuming a way as possible. The notion of linguistic meaning ought to play a central role in this kind of argument.<sup>6</sup>

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## TRIANGULATION AND THE PRIVATE LANGUAGE ARGUMENT

**Abstract.** *The paper attempts a novel defense of the main claim of Wittgenstein's Private Language Argument, i.e. that 'inner' ostensive definition is impossible. Part 1 traces Wittgenstein's target to the idea that 'ostensive definition' is a mental act, an idea that makes it tempting to think that its objects might just as well be private as public. Part 2 discusses a recent interpretation and defence of Wittgenstein's position due to Stroud and McGinn. On their view, private ostensive definition establishes no pattern of use because it fails to specify the type of inner episode that is being ostended. But not explicitly specifying a type is harmless so long as the ostension in fact brings it about that the subject's usage is sensitive to it. Part 3 proposes a new argument. Private ostensive definition does sustain a pattern of use, but that use is semantically indeterminate: nothing in it (or in the subject's mind) settles which of two alternative schemes of reference applies. The conclusion discusses Wittgenstein's best-known remarks on the subject from the perspective of this new argument.*

Wittgenstein's discussion of private language and related questions in the philosophy of mind occupies 70-odd sections of *Philosophical Investigations* from around 243 to around 315. But this discussion of it focuses upon just two of them: PI 258 and PI 265:

Let's imagine the following case. I want to keep a diary about the recurrence of a certain sensation. To this end I associate it with the sign "S" and write this sign in a calendar for every day on which I have the sensation. — I first want to observe that a definition of the sign cannot be formulated. — But all the same I can give one to myself as a kind of ostensive definition! — How? Can I point to the sensation? — Not in the ordinary sense. But I speak, or write the sign down, and at the same time I concentrate my attention on the sensation — and so, as it were, point to it inwardly. — But what is this ceremony for? For that is all it seems to be! A definition serves to lay down the meaning of a sign, doesn't it? — Well, that is done precisely by concentrating my attention; for in this way I commit to memory the connection between the sign and the sensation. — But "I commit it to memory" can only mean: this process brings it about that I remember the connection *correctly* in the future. But in the present case, I have

no criterion of correctness. One would like to say: whatever is going to seem correct to me is correct. And that only means that here we can't talk about 'correct'. (PI 258).<sup>1</sup>

Let us imagine a table, something like a dictionary, that exists only in our imagination. A dictionary can be used to justify the translation of a word X by a word Y. But are we also to call it a justification if such a table is to be looked up only in the imagination? — “Well, yes; then it is a subjective justification.” — But justification consists in appealing to an independent authority — “But surely I can appeal from one memory to another. For example, I don't know if I have remembered the time of departure of a train correctly, and to check it I call to mind how a page of the timetable looked. Isn't this the same sort of case?” No; for this process must now actually call forth the *correct* memory. If the mental image of the timetable could not itself be *tested* for correctness, how could it confirm the correctness of the first memory? (As if someone were to buy several copies of the morning paper to assure himself that what it said was true.)

Looking up a table in the imagination is no more looking up a table than the image of the result of an imagined experiment is the result of an experiment. (PI 265).

These remarks meet and exceed Wittgenstein's own high standards of unclarity. I'll argue briefly that the line of thought that these remarks can seem to convey is quite unpersuasive; then at greater length that there are other grounds for Wittgenstein's thesis; and in conclusion that this reading casts a more flattering light on the passages that I mentioned. But first I'll describe Wittgenstein's target in a little more detail.

## 1. Private ostensive definition

This section (1.1) introduces Wittgenstein's target by outlining the line of thought that leads to it; and then (1.2) circumscribes the kind of argument against it that I'll be considering here.

### 1.1. A mental act of naming

There is such a thing as ostensively 'naming' something. It happens e.g. in the formal or informal ceremonies that we call the 'baptism' or 'christening' of an object. Let us start with a paradigmatic example of such a ceremony: the christening of a child in a (Christian) church ceremony. Many aspects of this central case seem *inessential* to ostensive naming; here are five.

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1 References to Wittgenstein are to the 2009 Revised 4th edition of *Philosophical Investigations* by P.M.S. Hacker and J. Schulte (Wiley-Blackwell).

**First:** there is nothing special about the religious or other official surroundings of baptism and christening. A civil official could equally well name a baby, say, and a private individual can do this, e.g. with her pets.

**Second:** there is nothing special about the objects of the ceremony: it is possible to name insentient things much as we name persons. Somebody in an appropriate position could certainly name a river or a continent, or a planet or a star. In these cases, the 'appropriate position' may be that of being the first in his linguistic community to have discovered the item that is being named.

**Third:** we can name *kinds* of object as well as spatio-temporally located individuals. Somebody in an appropriate position regarding a disease or a species of plant or an element can dub its kind by pointing to an instance of it and saying 'I name this virus/species/element so-and-so' (Kripke 1980: 135–6). Here the appropriate position may be that of having been the first person in one's linguistic community to have identified instances of the kind as such.

**Fourth:** there is no reason why ostensive naming should merely be a device for fixing the *reference* of a *term*. It would also be possible ostensively to specify the *sense* expressed by some *sentence*. 'When the weather is like this I'll say that *it is X-ing*' ostensively fixes the reference of 'X', but it may also ostensively fix the sense of 'It's X-ing'. Similarly, Wittgenstein's diarist introduces 'S' as a *name for some type* of sensational state; but in addition, he introduces 'S' *as written in the diary* as a *sentence reporting the occurrence* of some sensational event of that type.

**Fifth:** no one *behavioural* prop belongs necessarily to ostensive naming. You can name an object without pointing to it if you and your audience are already attending to it. You can even name an object without saying its name out loud—but only to yourself; at least you can if the name is meant only for personal use.

Appreciation that all these features of the paradigm case are inessential to ostensive naming can create what Wittgenstein regarded as the danger of philosophical 'sublimation' (PI 38), of the solid facts about language-use into gaseous speculations about a mental realm lying behind them. For instance, once we see that no single kind of behaviour distinguishes the mere utterance of a sign in the presence of an object from the act of naming the object with the sign, the danger is that we will 'do here what we do in a host of similar cases: because we cannot specify any *one* bodily action which we call [naming something], we say that a *mental, spiritual* activity corresponds to these words' (PI 36).

It is then a short step to thinking that the act that turns the dead sign into a living symbol can—just because it is a *mental* act—correlate a sign

with *any* object of awareness, external or internal. It can seem that a mental act of correlation between a sign and a private sensation can by itself make the sign into a propositional symbol reporting the occurrence of some instance of that sensation. This commits you to the view that such a one-off act of naming can cast a kind of shadow over your future utterances or inscriptions of 'S'. It sorts them into true and false: subsequent utterances of 'S' are true if and only if accompanied by a sensation of the same type as that originally ostended; and subsequent inscriptions of 'S' in a diary or calendar are true if and only if entered under a date on which a sensation of that type did in fact occur.

Certainly some ostensive definitions of external objects or types of object can cast just such a shadow. But what Wittgenstein claims at PI 258 is that our semantic fiat over public objects, events or states of affairs cannot be directed inwards: in particular, that it cannot correlate a name with, or a sentence with the instantiation of, a *private* sensational type. These are, he says elsewhere, types that have no known public characteristics (PI 243).<sup>2</sup>

For instance, suppose that instead of typically being caused by the observable circumstance of sitting in one position for a long time, occurrences of what we call 'pins and needles' came and went apparently at random. Then it seems that any of us could via a mental act of correlation introduce the expression 'S' to record occurrences of that feeling. 'S' then belongs to a private language and its means of introduction is a *private ostensive definition*. This is an instance of Wittgenstein's target, the thesis that I shall label (T):

(T) It is possible to introduce 'S' by means of a private ostensive definition.

The conclusion of what I'm calling the Private Language Argument is that (T) is false. Before saying why I think it's false, let me place two restrictions on the sort of argument against (T) that I'll be discussing.

### 1.2. Arguments against (T)

The first point is that I'll only be concerned with *a priori* or at least relatively *a priori* arguments against (T). By this I mean to rule out arguments that rely on empirical discoveries in psychology or neuroscience bearing upon normal human learning of a word via ostensive definition. The arguments that interest me will rely only upon such 'general facts of nature' as are readily available to casual observation.

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2 So we *may* allow that like all other sensational types, what 'S' tries to report has 'external' correlates in the sense of neurological causes and physiological effects. We are only supposing that nobody knows what they are.

The point of thus restricting my field of vision is (a) that it is necessary for reaching any definite conclusions in the space of a paper; (b) although specific reasons to deny (T) certainly have philosophical interest, it would be *more* interesting if the trouble with (T) lay in general and obvious facts about human beings, because the latter sort of trouble would generalize more widely than the former.

Second: I aim only to consider arguments of which the denial of (T) is the *maximal* product, i.e. not ones that happen to refute (T) on the way to some stronger result. In particular, the arguments must show that the important line to draw amongst putative ostensive definitions is between those that are private and those that are not, rather than between those that fail, and those that meet, some more stringent condition than non-privacy that rules out other things besides.

To get an idea of the content of this restriction, note that it rules out consideration of what one might call Quine's private language argument. Quine wrote:

Entification begins at arm's length; the points of condensation in the primordial conceptual scheme are things glimpsed, not glimpses. In this there is little cause for wonder. Each of us learns his language from other people, through the observable mouthing of words under conspicuously intersubjective circumstances. Linguistically, and hence conceptually, the things in sharpest focus are the things that are public enough to be talked of publicly, common and conspicuous enough to be talked of often, and near enough to sense to be quickly identified and learned by name; it is to these that words apply first and foremost. (Quine 1960: 1)

Quine's premise, that we all learn language from others, *is* grounds to reject (T). Any ostensive definition that was private in the sense of (T) would not define any term that another could convey to you: if 'S' describes the occurrence of an event for which no publicly available criteria are known then nobody else could tell you when you are right or wrong to say or write 'S'.

But that premise is also grounds for rejecting *more* than just (T). If it establishes the impossibility of private ostensive definition then it also establishes the impossibility of *solitary* ostensive definition: i.e., an ostensive definition of a term or sentence denoting or describing a possibly *public* object, event, or type of either that the learner happens to frame and use *without telling anyone else* (as would happen, for instance, in the case of a congenital Robinson Crusoe). If we all learn language from others, then solitary ostensive definition is as impossible as private ostensive definition.

So if Quine's premise is correct then no *special* difficulty arises for *private* ostensive definition.<sup>3</sup>

## 2. The McGinn/Stroud interpretation

Of the main interpretations of Wittgenstein's argument, I have space only to consider the most plausible; probably it is also the most faithful to Wittgenstein. This is due in essentials to McGinn and Stroud.<sup>4</sup>

The interpretation focuses on the relation between two things: on the one hand, the introspective episode that is meant to establish the meaning of 'S'; on the other hand, the subject's subsequent *use* of 'S'. The basic idea is that the former cannot determine the correctness or otherwise of the latter: no act of introspective 'ostension' can settle how 'S' is supposed to be being used in the future.

When I 'speak or write the sign down, and at the same time concentrate my attention on the sensation', I do not thereby determine a linguistic technique for using... 'S'. There is nothing that can count as a correct use of 'S' in the future because there is no linguistic technique of using 'S' fixed by my act of looking inwards and concentrating on what I then feel... On this interpretation, there is quite clearly nothing in PI 258 that implies that language cannot connect with the inner; the whole force of the remark is that it cannot connect with it on the basis of acts of introspection. (1997: 131)

But *why* does a private ostensive episode fall short of 'determining a linguistic technique'? The clue is in PI 257:

When one says "He gave a name to his sensation", one forgets that much must be prepared in the language for mere naming to make sense. And

3 Although I am *aiming* at satisfying this restriction, I may actually fall short of this aim: for the argument that I eventually endorse may end up establishing a far stronger result than the denial of (T). See fn. 9 below.

4 McGinn 1997; see also Stroud 2001. Four other readings are: (i) The verificationist reading, according to which the disabling defect of a private ostensive definition is that it inevitably fails to specify a verification procedure for 'S' (Malcolm 1966: 60–70); (ii) A refinement of this, where what are unverifiable are claims about *what I meant all along* by 'S' (Kenny 1976: 192–5, Pears 2007: 44; Mulhall 2008: 96–7); (iii) The logical reading, according to which the trouble is that since the private linguist cannot be said to *misidentify* candidates for being called 'S', neither can he be said to *identify* them (Schroeder 2006: 211–4; Hacker 1990: 118–20, 130–132); (iv) Kripke's reading, according to which the trouble with a private ostensive definition is that nobody other than its user can judge whether his subsequent uses of 'S' are in accord with the ostensive definition (1982: 109–13). I believe that Stroud (2001) has given good reasons to reject both (i) and (ii); and the defenders of (iii) have never given an argument from the possibility of identification to the possibility of misidentification. Kripke's argument, like Quine's, is beyond the scope of this paper, and for the same reason.



when we speak of someone's giving a name to a pain, the grammar of the word "pain" is what has been prepared here; it indicates the post where the new word is stationed.

This passage—especially in its concluding metaphor—alludes to the discussion of ostensive definition that had appeared very much earlier in *Philosophical Investigations*, and specifically to the remark that 'the word "number" [in the ostensive definition 'This *number* is called "two"'] shows what *place* in language, in grammar, we assign to the word' (PI 29).

In those earlier sections, Wittgenstein had said that *any* ostensive definition could be understood in any of indefinitely many ways. "That is called 'two'", said whilst pointing at a group of nuts, might be taken as an ostensive definition of the number two, of a kind of nut, of a colour or even of a point of the compass (PI 28). In *this* case, is possible to avert that sort of misunderstanding by specifying that it is the *number* that one is calling 'two'.

Now in the case of private ostensive definition the same misunderstanding threatens to arise. What is there to assure his later self that the would-be diarist of PI 258 is introducing 'S' as the name of one type of sensational episode, rather than as the name of some other type of episode to which the present experience also belongs? As Stroud points out (2001: 154), *any* future episode will resemble this one in *some* respect. For instance, suppose that the private linguist experiences a chromatic sensation that he has never had before (e.g. the 'missing shade of blue') and, whilst concentrating on that experience, utters the sign 'S'. Then what is there in that attempted definition to tell his future self that 'S' is the name of the *colour* that he then experienced rather than (say) of the brightness or of the shape that he then experienced?

Well, can't he settle this in the same way as we settled the difficulty with 'two', that is, by stipulating on the first occasion that 'S' is to name this *colour*? The trouble is that 'colour' is a word of our public language, and similarity of colour is settled by external criteria that are available to everyone—and so in that case 'S' does not after all belong to a private language. Somebody else might understand it as well as the subject.

More generally, any attempt to specify the relevant respect of similarity must be framed in either a private or a public language. If it is framed in a public language, then the ostensive definition of 'S' is no longer 'private'. But if it is framed in a *private* language then we are simply presupposing the connection between language and private episodes that the private ostensive definition was meant to underwrite (cf. PI 32). Either way, no private ostensive definition can by itself tie linguistic expressions to private sensational episodes. That is the conclusion of the Stroud-McGinn interpretation.

The trouble with it is that it isn't clear why the private ostensive definition needs to make any explicit stipulation about the relevant respect of

similarity; all that is needed is that the baptism *does in fact bring it about* that the speaker respects it. Wittgenstein himself had already made the analogous point for public ostensive definitions. For instance, consider the specification that when I say ‘That is called “two”’ I mean that that *number* is called ‘two’. That specification *might* avert the misunderstanding that ‘two’ is the name of a number and not e.g. of a colour. But the ostensive definition might well have been successful even without it. There is no inconsistency in supposing that my audience does in fact go on to use the expression in the way that I intended.

Whether the word “number” is necessary in an ostensive definition of “two” depends on whether without this word the other person takes the definition otherwise than I wish... And how he ‘takes’ the explanation shows itself in how he uses the word explained. (PI 29)

Applying this point to the ‘private’ case: suppose that the private ostensive definition in fact has the effect that the subject goes on to use ‘S’ for episodes that resemble the initial episode in some non-publicly-assessable respect R1 rather than in other such respects R2, R3 etc. And suppose that was indeed the respect of similarity that he initially intended. There is no inconsistency in these suppositions.<sup>5</sup> And if they hold, the private ostensive definition is successful without having *explicitly* fixed that aspect of the subsequent correct use of ‘S’.

Wittgenstein wrote:

‘I commit it to memory’ can only mean: this process *brings it about* that I remember the connection correctly in the future. (PI 258: my emphasis)

Whatever suffices for the right-hand side of this semantic equation suffices also for its left-hand side. But since as Wittgenstein himself has argued, a bare ostensive definition always could fulfil the condition on the right without explicitly specifying ‘the post at which we station the word’, it is surely possible for such an ostensive definition to commit the meaning of ‘S’—that is, the conditions of its correct use—to my memory.

McGinn or Stroud might object at this point that *we*—that is, people other than the private diarist himself—have no reason to think that ‘S’ is being used as a term for a type of private sensation. After all, others’ sensations are as Wittgenstein says (PI 256) ‘tied up with their natural expressions’; and this ‘S’ is by definition not tied up with any natural expression. So as far

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5 But how are we to cash out this claim about the subject’s intention at the time? We might do so in terms of a counterfactual conditional: were the diarist *then*—at the time of the baptism—to have had experiences that resembled the initial one in respects R1, R2 etc. it would be exactly those that resembled the initial sample in respect R1 that he would agree to call ‘S’-type experiences. Cf. PI 187.

as we can tell the private diarist is writing down 'S' entirely haphazardly. As far as we can tell, the private diarist is not using the 'S' to denote or to report any type of episode at all, sensational or otherwise (McGinn 1997: 132; Stroud 2001: 155).

The point is correct but serves only to emphasize the *privacy* of the speaker's language—the fact that nobody else can understand it, or perhaps even recognize it as a language at all—and not to reveal any incoherence in it. From the premise that nobody *else* knows the meanings of the speaker's 'S', or even whether it *has* any meaning, it simply does not follow that 'S' is in fact a meaningless squiggle. At least it does not follow without some verificationist premise to the effect that nobody ever means anything by a word unless other people can tell what he means by it. But if we had that premise to hand then we could have directly reached the conclusion that 'S' is meaningless *however* it had been introduced: there would have been no need for a relatively elaborate argument that *private ostensive definition* suffers any special defect.

McGinn has also said something that suggests a different objection. It is essential to private ostensive definition that the diarist 'directs his attention' to the initial instance of the sensational type that he is dubbing. But how does he achieve this 'directing of his attention'? As Wittgenstein observes, he cannot point at it in the ordinary sense, i.e. with his finger: one could only point at something in *that* way if anyone else could too. Instead one must do a 'mental' pointing, of which McGinn says that it is done not with the finger but 'with the imagination'. She continues:

In order to get us to see that 'pointing to a sample in (or with) the imagination' is not an instance of pointing to a sample, Wittgenstein also offers a number of other comparisons. We would not want to say that looking up a table in the imagination is looking up a table [PI 265], nor that the imagined result of an experiment is the result of an experiment [PI 265]. And nor would we want to say that looking up a clock in the imagination is a way of determining the time [PI 266]... In the same way, pointing to an object with (in) the imagination is not an instance of pointing to an object... Thus the very idea that pointing to a sample with (or in) the imagination is an instance of pointing to a sample is completely idle or empty. (1997: 137)

This new argument is that, far from assigning to 'S' the type of a privately exhibited item, the private diarist has not so much as exhibited anything to himself in the first place. Even if I was right that private ostension needn't explicitly specify the respect of similarity that is supposed to govern 'S', still it must at least specify the initial sample. But because this 'specification' takes place in the medium of the imagination, it doesn't even manage to do that. An 'ostension in the imagination' is an imaginary ostension, that is, not an ostension at all.

But what settles whether the ostension is successful is whether it succeeds in drawing the audience's attention to the object or type that the subject intends. When the audience includes persons other than the ostender it is natural to expect that this demands a visible or otherwise sensible gesture on the part of the ostender, because that is the only sort of act that the audience can perceive. But when ostender and audience are the *same* person, that demand lapses. It seems on the face of it that I *can* ostend a public object to myself simply by focusing attention upon it. Why not also a private one?

McGinn will object that the ostender has not really picked out anything but has only imagined doing so. But the argument form, from the premise that one Fs in the medium of the imagination to the conclusion that one is not really F-ing at all, is invalid. It is true that looking at a clock in the imagination is not the same thing as looking at a clock, and that imagining an experiment falls short of doing it. But it is *not* true that *calculating* (counting, adding, etc.) in the imagination falls short of real calculation. 'It is *real*—calculation-in-the-head' (PI 364); to carry out a calculation in one's imagination *is* to carry out a calculation. We needn't dispute whether the private diarist's ostension takes place 'in the medium of the imagination'; but the issue that remains—which McGinn says nothing to resolve—is whether it therefore belongs with experiments, in the category of things that cannot be done just 'in the imagination', or whether it belongs with calculation in the category of things that can.

Ultimately, whether a mental *or* bodily act counts as an ostension of something will depend on whether it has the intended effect on the learner and thus, in Wittgenstein's words, on 'the use that he makes of the word defined.' If the act of private ostensive definition does indeed have the effect that the diarist goes on to use 'S' in the manner that he initially intended, there is nothing to stop us from saying that that definition involved an act of pointing that is as real as any bodily gesture. So unless we have independent reason to deny that private ostensive definition has this effect, there is no reason that I can see to doubt that ostension really took place.<sup>6</sup>

### 3. Triangulation

Is there any other reason to think that private ostensive definition is futile? McGinn and Stroud were right to focus on the alleged connection between the initial act of private ostension and the subsequent *use* of 'S'; right also to

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6 I should emphasize: I am not claiming that 'pointing in the imagination' *is* sufficient for securing a meaning for 'S'; but only that it is *for all that McGinn says*. My own interpretation of the argument is consistent with the claim that the diarist successfully points ('in his imagination') at the initial sample whilst saying 'S' to himself. The point will rather be that even if this happens, it is still not sufficient for 'S' to be a report of the instantiation of a type to which that sample belongs, but for reasons quite different from those that we have seen so far.

claim that the former is impotent in principle to underwrite the latter. But the claim needs a different argument.

### 3.1. *The diarist's private practice*

Let us start by looking at what happens from God's point of view, that is, under the idealizing assumption that we can see into the diarist's mind. What we are looking at, then, is a pattern of linguistic responses (either writing 'S' or not writing 'S') to various inner events that we can also 'see'. Let us allow that some sensational event really does occur on the occasion that 'S' is introduced to the language (call this the *initial sample*) and that traces of it in the diarist's mind commemorate this.

What we see is this. The diarist suffers an episode of a type of sensational state. He concentrates on that sensational state whilst saying 'S'. The effect of this is to set up a stimulus-response association: if on any later day he has a sensation that matches in some relevant respect, or is within some maybe vaguely delimited range of, his memory of the initial sample, he writes 'S' in his calendar or diary under that day. Match with his memory of the initial sample is the *only* criterion governing the diarist's classification of subsequent sensational items that do, and those that do not, deserve the label 'S'. This classificatory practice (as it seems to be) is the whole of the private diarist's use of 'S'.

Now it looks as though the behavioural/sensational pattern that I just described is properly described as a case of ostension in which 'S' has been introduced as a *term* denoting some sensational type to which the initial sample belongs, and its entry on a page of the diary as a *sentence* stating the occurrence of a token of that type on the day for which the entry appears. But I claim that that is not the correct description of the situation: there is a crucial feature of the situation that stops those from being the right things to say about this case. It will be clearer why this feature is crucial once we have appreciated two other features of the situation that are *not*.

One striking feature of the situation is that it involves only a very primitive pattern of behaviour, i.e. *just* classificatory behaviour. The private linguist doesn't talk *about* S; he doesn't embed 'S' in larger sentential contexts; he doesn't speculate as to its causes or effects; in fact he does nothing with 'S' beyond the primitive diary-keeping that PI 258 describes. This is clearly *one* respect in which his use of 'S' falls short of the everyday use of terms that many of us learnt by ostensive definition, e.g. names of people.

But it is not a crucial respect, I think. To see this, consider that it is easy enough to imagine a *public* practice that is just as primitive and of which we should not hesitate to say that its terms successfully refer. Thus consider a variant on Wittgenstein's first language game involving two builders (PI 2). In this variant, A teaches B names for types of objects by pointing to their

instances and uttering the word, e.g. ‘block’, ‘pillar’, ‘slab’, ‘beam’. Subsequently A shows items of one or another type—a block, a pillar, a slab or a beam—to B. And because of the initial ostension, B typically calls out the right name: ‘block’ when shown a block, ‘pillar’ when shown a pillar etc. We could even imagine, as does Wittgenstein (at PI 6) of an equally simple pattern, that this practice is the *entirety* of the language of A and B. So here we have a pattern of linguistic behaviour that is just as barely classificatory as that of the private diarist. And yet it is clear enough that A and B are playing a *language* game in which ostensive definition has set up ‘block’, ‘pillar’ to be terms respectively denoting blocks and pillars. The purely classificatory nature of the private diarist’s practice cannot be the source of the trouble.

A second striking feature of the private diarist’s situation is that his initial sample of *S* *no longer exists*. It was there when he introduced ‘S’ into his language but now it is gone. This is certainly not the situation in every uncontroversial case of ostensive definition. Typically if I ostensively define a type-expression, say, ‘sepia’, as *the colour of that sample over there*, then it is at least in principle possible to settle the correctness of subsequent disputes as to whether some object, say a coloured surface, falls under the extension of that term by going back to the initial sample and directly comparing it with the object whose status as an instance of the relevant type is in dispute.

But this does not always happen with genuine ostensive definitions; and as far as I can see it need not ever happen. It is entirely possible that the initial sample should cease to exist and yet continue to underwrite the reference of a term in its subsequent and post-mortem uses, so to speak at a distance. This will happen just so long as the initial sample leaves traces that commemorate its relevant features and through which it enters by proxy into classificatory exercises involving the term. E.g. suppose that (colour!) photographs of the initial sample of sepia are still in existence, that everybody has such a photograph in her possession, and that each of us classifies coloured surfaces as ‘sepia’ or not based on whether the surface matches—or resembles, possibly to a vaguely specified degree—her photograph. If the photographs all agree, there seems nothing wrong with saying that under this regime of use the term ‘sepia’ refers to the chromatic type to which it had been ostensively assigned, back when the initial sample still existed.

But the initial sample is commemorated in the private case too, by the diarist’s *memories* of it. Whatever exactly memory is, it is plausible that like photography, it at least involves some sort of causal process connecting the type remembered to its present memory traces.<sup>7</sup> The private diarist’s memory trace of the initial sample directs his use of ‘S’ in the way that everybody else’s photographic trace of *its* initial sample directs her use of ‘sepia’. The passing away of the initial sample in the former case is no more problematic in the former case than in the latter.

7 Martin and Deutscher 1966.

### 3.2. *Indeterminacy of the private practice*

But now, what about the fact that his memory is the *only* medium in which he can compare candidate instances of 'S' with the initial sample? This is the fact to which Wittgenstein alludes at PI 265 when he points out that there is no (memory-independent) way for the private diarist to *check* his memory of the initial sample. And in fact it *is* this feature of the case that the private diarist has *only* his memories to go on, that is the fundamental difficulty with private ostensive definition. The argument for this is an underdetermination argument.

Given the description of the private diarist's practice, there are (at least) two possible interpretations that we (or God) might give to 'S'. One hypothesis is that 'S' refers to the *original* felt quality of the initial sample. The other hypothesis is that at any later time *t*, 'S' refers to his *memory at time t* of the initial sample. Now if the memory of the initial sample is accurate, the two hypotheses imply the same about the truth-value of any entry of 'S' in the diary. But suppose that the memory-image changes over time. Because his memory image at any time constitutes his only clue as to the original quality, the diarist will not notice this difference. In that case the two hypotheses are inequivalent: given his actual classificatory behaviour, the first hypothesis implies that he *falsely* writes down an entry 'S' for days in which his sensation matches his memory image of the initial sample, whereas the second hypothesis implies that he *truly* writes 'S' on those days.

But both hypotheses are equally compatible with his actual behaviour despite entailing different extensions for 'S'. Hence the reference of 'S' as a term, and the truth-value of 'S' as a sentence, are both underdetermined by the private diarist's classificatory behaviour: as long as 'S' remains part of a private language in which the only traces of the initial sample are the private diarist's memory traces of S, nothing that we can see, or that God can see, justifies preferring one hypothesis about its reference over the other. And that means that there is no room in his practice for the idea that 'S' refers at all.

### 3.3. *Determinacy and Indeterminacy in the public sector*

The following analogy shows that a pattern of classificatory behaviour as impoverished as the private diarist's faces the same difficulty whether 'external' or 'internal': it also indicates why 'external' ostensive definitions do not usually face this problem.

On 1 January 2018 Smith visits some shop selling interior furnishings. Smith sees a roll of wallpaper in a colour that he thinks would suit his living-room. He takes away a sample (a patch of wallpaper of that colour), dubs its colour 'S', and on returning home finds that indeed it goes very well. Returning to the shop that afternoon, he finds that the shop has been shut down and its inventory sold off: he cannot buy the wallpaper that he wants.



Moreover Smith is hopeless at remembering colours, and he certainly has no recollection of the exact shade. Still, he has a sample of the colour that he wants, and so he takes it with him to various retailers looking for rolls that match. He becomes slightly obsessive about this project and it goes on for years. Because of the importance of his quest he keeps a note of its progress, making an entry of 'S' in his diary under days on which he finds paper that matches his sample.

On the same morning, Jones also visits the same shop and buys the same wallpaper, in a quantity that she thinks is enough to paper her living-room; she too dubs its colour 'S'. Jones doesn't care greatly about the specific colour: what matters to *her* is only that her living-room has a *uniform* décor. That afternoon Jones discovers there isn't quite enough to paper the whole living room and so returns to the original shop, only to find that it has shut down and its stock has been sold off. So Jones tears off a sample from her half-papered wall and sets off in search of an affordable roll that matches it. Like Smith she keeps a record of her search (which also goes on for years), writing 'S' in her diary under days on which she finds a roll that matches *her* sample.

Now if we look *only* at that part of Smith's and Jones's behaviour that corresponds to the *whole* of the private diarist's behavior—that is, the initial dubbing and consequent classificatory practice involving 'S'—we see that they match. Both agents have uttered 'S' whilst focusing on a wallpaper sample of a particular colour and gone on to enter 'S' for just those days on which he or she comes across a roll that matches the sample. And yet *the term 'S' refers to different things* in their respective idiolects. For Smith, 'S' refers at any time *t* to whatever matches the *original* colour of the paper in the shop i.e. its colour on January 1, 2018; whereas for Jones, 'S' refers at *t* to whatever matches her portable sample *at t*.

To see how *this* difference in references involves a difference in the behavioural dispositions of these parties, we need only suppose that Smith and Jones have *other* sources of information about the colour of the wallpaper in the shop on 1 January 2018. Imagine that after three years some former employee of the original retailer reveals that the batch of wallpaper that was on sale on 1 January 2018 had been produced using a dye that gets lighter over time, so that after three years its colour has quite changed. Smith and Jones would react quite differently to this news. Smith would no longer write 'S' when he finds rolls of wallpaper that match *his* sample. Instead he would do so only when he finds rolls that are somewhat darker than his sample, because he wants the *original* colour. But Jones will *continue* to write 'S' whenever she sees rolls that match her sample, because she wants a roll that matches the *present* décor of her living-room, and both the paper in her living-room and the paper that constitutes her sample will have lightened at the same rate.



We may sum up the difference between these reactions by saying that Smith is using his sample *transparently*, i.e. as a *medium* for comparing wallpapers with the colour of something in the *past*. Whereas Jones is using *her* sample *opaquely*, i.e. as a *present* standard of comparison against which she measures rolls of wallpaper that she now encounters.

This difference in their dispositions to react to the news from the ex-employee is what makes it correct to distinguish the temporal locations of Smith's and Jones's standards of comparison. We can characterize the difference more generally as follows: if on a particular day Smith and Jones both find a roll of wallpaper matching the sample, Smith will, but Jones will not, be prepared to revise his decision to write 'S' in the face of conflicting evidence about whether the original colour matches the roll. In the present example that conflicting evidence was the testimony of the ex-employee, but it could have been anything else that played the same role given Smith's and Jones's beliefs. For instance, it might have been a photograph of the original wallpaper taken on 1 January 2018 (assuming that the photograph is known by Smith and Jones not to fade, or at least that it fades at a rate known to both). All that is necessary is that there be a *possibility of conflict* between the alternative source of evidence and the evidence that a match with the sample supplies.

But without any such source of conflicting evidence and so without any dispositional difference between Smith and Jones, there is simply nothing in their classificatory behaviour to settle—for us or even for God—whether either of them is making a comparison with the *initial* sample or with its contemporary descendant. And that just means that here we can't talk about any such 'comparison'. But since what the term 'S' denotes is the colour of the object of the comparison, we can't talk about the *reference* of the term 'S' in the language of either, nor of the truth-value of inscriptions of 'S' in either person's diary.

The same indeterminacy affects the private diarist. When he writes 'S' is he reporting the match between his present sensation and the *initial* sample, or between his present sensation and his present *memory* of the initial sample?<sup>8</sup> *Either* hypothesis is compatible with the totality of his behavioural dispositions: which is just to say that *both* hypotheses cut finer than the facts.

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8 I am here for vividness engaging in the fantasy of PI 265 that the exercise of memory consists in the comparison of objects of present awareness with memory images. Of course nothing like that usually happens, but the fiction is useful for making the argument clearer. The exercise of memory more often consists in the formation of a judgment without the intervention of any 'memory image' at all. But this makes no material difference to any of the points that I want to make (or to many of the points that Wittgenstein wants to make). I could instead have argued, more generally but along the same lines, that there is an indeterminacy, in the private linguist's case, between (i) the hypothesis that at any *t* 'S' denotes the felt quality of the initial sample; and (ii) the hypothesis that at any *t* it denotes the felt quality that at *t* he remembers it as having had.

What would show that one or the other hypothesis was true would be a *memory-independent source* of information about the original sample, i.e. of a sort analogous to that which I introduced at the end of the Smith/Jones example. For instance, suppose that his exposure to the initial sample took place when one of his fingers was being pinched; suppose further that he knows this. Now it may happen that on a subsequent occasion he finds himself suffering a sensation that *matches* his memory image of the initial sample; but he *resists* writing ‘S’ in his diary because he sees that none of his fingers are being pinched, and he regards that as being evidentially relevant to the question whether he is now having S. That would be inexplicable if ‘S’ just referred at *t* to whatever at *t* he remembered the initial sample to be; on the contrary hypothesis, that ‘S’ referred to the felt quality of the initial sample, it is just what you would expect.

But in the absence of any such sensitivity to any alternative—that is, any memory-independent—channel of evidence, there is no getting away from the indeterminacy over the reference of ‘S’. And it seems to me that the privacy of the sensation is just what excludes such alternative channels. That sensation type is private in the sense that it has no known causes and no known effects other than via the memory of the diarist; hence as far as the diarist is concerned there cannot *be* any alternative channels of evidence. So it seems that indeterminacy of reference is an inevitable feature of the privacy of its user’s situation.<sup>9</sup>

9 One objection to this argument is that it seems to be arbitrarily restrictive. After all, if the possibility of reinterpretation of a subject’s linguistic use is enough to rule out any particular interpretation of it, then surely the problem extends beyond private language. For instance, Quine has argued for a quite general method of reinterpretation, of public as well as private language, in terms of proxy functions (1981: 19–21). I can only make a few sketchy remarks in response to this objection.

My inclination is to bite the bullet, and to concede that the Private Language Argument is really a special application, to an area of thought where it seems most implausible, of an argument that has more general application. (For a similar argument concerning PI 293, see my 2010: 126–8.) All that Wittgenstein’s argument does is to identify a special kind of indeterminacy (i.e. between reference to the present and reference to the past) that afflicts the would-be user of ‘S’. On this view, I must give up on the aim of identifying an argument of which the denial of (T) is the ‘maximal’ product (see section 1.2).

But an alternative response would be to argue—though I have not done so here—that in the private case the indeterminacy is somehow deeper: not only is it not settled *what* the private diarist’s term ‘S’ denotes; it is unsettled whether it denotes anything at all. The reason is that we *can* understand the diarist’s ‘S’ as not referring to anything at all: we (or God) could equally account for his behaviour by interpreting the inscription ‘S’ *adverbially*, so that it says so to speak ‘I am remembering S-ly’. There need be no mention of *any* objects of reference in this account because nothing in his behaviour demands such a reference. (Note by contrast that in Quine’s ‘proxy function’ argument for the inscrutability of reference, *all* reinterpretations of a term assign *something* to that term; so it is in a sense still determinate that ‘reference is going on.’) I have written elsewhere (2007: section 2.3.2; 2017) about what it would take for a systematic description of a pattern of linguist behaviour to demand reference to objects. That a Wittgensteinian private language falls short of meeting those conditions seems to me to be an interesting question that I hope to pursue further elsewhere.

## 4. Conclusion

Wittgenstein was therefore right to say, as he does at PI 258, that there is something wrong with the kind of report of which I can say that ‘whatever seems right to me *is* right’. On the ‘logical’ interpretation of this argument (see (iii), n.4), this implies that the diarist is not after all identifying any inner object, because the possibility of identification implies the possibility of misidentification. But it is hard to see *why* the possibility of identification implies the possibility of misidentification.

Wittgenstein was also right to insist that the *uncheckability* of the diarist’s memory of the baptismal sample is what causes the problem for the private diarist, as he does at PI 265. On the verificationist interpretation of the argument (see (i), n.4), the point of the appeal to uncheckability was supposed to be that an uncheckable claim is unverifiable and therefore meaningless. But as Ayer (1954) pointed out, if my having to rely on memory to check a claim makes it meaningless then the impossibility of private language is the least of our worries: most of what we say about the external world would also be meaningless.

On the present interpretation, both remarks find a different place. The significance of ‘whatever seems right to me *is* right’ is that this is an alternative hypothesis about the reference of ‘S’: that ‘S’ denotes not the felt quality of the initial sample but rather whatever matches the diarist’s present recollection of it. On *this* hypothesis, whatever seems right to him *is* right. There is nothing wrong with that being true about ‘S’: the trouble is that it is an available hypothesis about reference that is *alternative* to the hypothesis that ‘S’ denotes what the ostensive definition was supposed to *make* it denote. And the significance of uncheckability is that if the diarist’s recollection of the initial sample *is* uncheckable, then nothing in the private diarist’s behavior—or anywhere else—rules out that alternative hypothesis. If God had looked into his mind he could not have seen there what ‘S’ means. And *that* just means that ‘S’ doesn’t *have* a meaning.<sup>10</sup>

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## WITTGENSTEIN'S 'TREATMENT OF PSYCHOLOGICAL CONCEPTS' AND ITS PHILOSOPHICAL SIGNIFICANCE

**Abstract.** *Wittgenstein's 'plan for the treatment of psychological concepts' in the second volume of his *Remarks on the Philosophy of Psychology* (§§63, 148) is often understood as motivated by purely classificatory concerns that have little philosophical significance. I argue that this is a misinterpretation of Wittgenstein and that his planned and partly realized 'treatment of psychological concepts' deserves a better fate. In the first part of the paper I attempt to show that Wittgenstein's interest in psychological concepts in RPPII, far from being merely an interest in their classification, is in fact closely connected to one important element of his conception of philosophy in the *Philosophical Investigations*, the requirement that 'all explanation must disappear, and description alone must take its place' (PI §109). In the second part of the paper I present the broad outlines of Wittgenstein's new, post-*Investigations* treatment of psychological concepts, as they are seen both in the account of the concepts directly addressed in RPPII §§63, 148 (those of seeing and other sense-impressions, of sensations, mental images and emotions), and also elsewhere in that volume where other important psychological concepts are discussed, e.g., those of thinking, intention and states of mind (Seelenzustände). Although it represents work in progress that was never brought to completion, I suggest that the account of psychological concepts in RPPII is an original, insufficiently appreciated strand of thought within Wittgenstein's oeuvre, and also that it is an account worth exploring for anyone not convinced by the scientism accepted by so much of the recent philosophy of mind.*

In the almost four decades since their appearance, the two volumes of Wittgenstein's *Remarks on the Philosophy of Psychology* have not excited much philosophical interest in their own right. They have been used to support general interpretations of Wittgenstein's philosophy of psychology, perhaps most notably by Malcolm Budd,<sup>1</sup> but there have been few attempts to assess whether they add anything of more than local importance to Wittgenstein's over-all view of the mind.<sup>2</sup> A large part of the reason is, of course, the undoubted fact that both volumes represent Wittgenstein's thought at a still exploratory stage; here his remarks exhibit little of the characteristic and very

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\* Retired.

1 See Budd 1989.

2 For one recent attempt, see Hacker 2010, 289–305.

effective organization they have in the *Philosophical Investigations*,<sup>3</sup> where in spite of Wittgenstein's stylistic indirection any reasonably sophisticated reader is able to see the book as a series of focused, extended discussions of an interconnected set of topics. In terms of style and the organization of material, and generally also of content, the *Remarks* clearly lack the endless suggestiveness of a major work like the *Philosophical Investigations*.

There is nevertheless one line of thought in the *Remarks* that seems to me important within his *œuvre*, and also philosophically interesting in its own right. It is explicitly announced in Wittgenstein's 'plan for the treatment of psychological concepts' in the second volume of the *Remarks* (*RPPII* §§63, 148<sup>4</sup>), but it is then seemingly abandoned. Even when not overlooking it completely, interpreters of Wittgenstein's philosophy of psychology (e.g., Joachim Schulte and Malcolm Budd) have not made much of this strand of his thought or have been sharply critical of it, like Peter Hacker.<sup>5</sup> In opposition to this, I shall attempt to show that Wittgenstein's partly realized 'treatment of psychological concepts' in *RPPII* deserves a better fate. It is an account that agrees with, and indeed presupposes, what the *Investigations* say about sensations, behaviourism, thinking, and the different uses of some psychological verbs (*PI* §§573–588); but it extends these considerations in ways that help to answer objections and clear away misunderstandings, arguably leaving us with a subtler philosophy of mind than Wittgenstein is often credited with by his critics and, indeed, by some of his followers.

The first section of the paper is concerned with the nature of Wittgenstein's interest in psychological concepts as shown in *RPPII* §§63, 148 which is, contrary to what is often asserted by commentators, far from being merely an interest in their classification. It is in fact closely connected to one prominent element in his conception of philosophy, the one summed up in the requirement that 'all *explanation* must disappear, and description alone must take its place' (*PI* §109). In the second section I present the broad outlines of Wittgenstein's new, post-*Investigations* treatment of psychological concepts, as they are seen not merely in the account of the concepts directly addressed in *RPPII* §§63, 148 (those of seeing and other sense-impressions, of sensations, mental images and emotions) but also elsewhere in that volume where other psychological concepts are discussed, e.g., those of thinking, intention and states of mind (*Seelenzustände*). I argue that when it is considered carefully and sympathetically Wittgenstein's post-*Investigations* treatment of psychological concepts in the second volume of the *Remarks*

3 Or Part I of that work, for those who disagree with the decision of the new editors to treat Part II of the original Anscombe–Rhees edition as a separate, self-standing text entitled *Philosophy of Psychology—A Fragment*.

4 I shall henceforth refer to the two volumes of *Remarks on the Philosophy of Psychology* as *RPPI* and *RPPII*, to *Philosophical Investigations* as *PI*, and to *Zettel* as *Z. Philosophy of Psychology—A Fragment* will be referred to as *PPF*.

5 See Schulte 1993, 30–36; Budd 1989, 10–13; Hacker 1996, 141–143.

is of considerable philosophical significance. Although it represents work in progress that was never brought to completion, it is original within his *œuvre* in a way that has not received proper recognition and that has definite attractions for anyone who views with scepticism the scientism taken for granted by so much of the recent philosophy of mind.

## I

**I.1.** Both volumes of *Remarks on the Philosophy of Psychology* represent typescripts dictated by Wittgenstein after he had made a selection from more extensive manuscript material (they are TS 229 and TS 232 in G.H. von Wright's catalogue of his writings). The editors of *RPPII*, von Wright and Heikki Nyman, say that Wittgenstein 'probably dictated' TS 232 'in September or October 1948', and we know that §§63, 148 had been written almost a year earlier, in December 1947; just a week before that, also in December 1947, Wittgenstein had drawn and illustrated a general distinction between 'states of consciousness' and broadly conceived 'dispositions' (*RPPII* §§45, 50–57),<sup>6</sup> and to understand properly his 'treatment of psychological concepts' and what he might have hoped to achieve with it, we need to look first at this distinction.

Wittgenstein begins by saying that he would like to speak of 'states of consciousness', for instance 'seeing a certain picture, hearing a tone, a sensation of pain, a sensation of taste, etc.', and on the other hand 'believing, understanding, knowing, intending, and so on, [which] are not states of consciousness' and might be called 'dispositions': 'an important difference between dispositions and states of consciousness is that a disposition is not interrupted by a break in consciousness or a shift in attention' (*RPPII* §45).<sup>7</sup> Wittgenstein is content here to ignore the fact that knowing and understanding either are, or at least are akin to, abilities,<sup>8</sup> while believing and intending are not. And he is right to do so; for the point he makes in the last sentence of §45—'An interruption of belief would be a period of unbelief, not, e.g., the withdrawal of attention from what one believes or, e.g., sleep'—holds, suitably reformulated, for knowledge, understanding and intention as well.

There are further contrasts to be drawn between states of consciousness and dispositions thus broadly conceived, e.g., the possibility of determining 'how long an impression lasts by means of a stop-watch', while 'the duration of knowing, being able to do something or understanding could not be determined in this way' (*RPPII* §51); or the possibility of telling someone 'Pay attention and give me a signal when the picture, the noise, etc. alters',

6 See Schulte 1993, 24–25.

7 In some cases, as here, I have slightly modified the translation in order to make it more literal or to preserve consistency in the translation of important terms.

8 See, e.g., *PI* §150.



‘whereas one cannot follow with attention the forgetting of what one knew or the like’ (*RPPH* §50). All three contrasts point to states of consciousness having ‘genuine duration’ (*RPPH* §50), something that it makes no sense to ascribe to dispositions. Of course, it might be possible to pinpoint exactly the moment I realized how a certain theorem may be proved; the moment I formed the belief that sentimental people are not particularly reliable (which I still hold); the moment I decided to go to Rome for my next holiday (which I duly proceeded to do), etc.<sup>9</sup> But this is not to say that from that point on my knowledge, belief or intention is open to being interrupted, amenable to continuous temporal measurement or capable of being followed with attention. None of these are intelligible procedures with dispositions, as they would be in the case of states or activities which have genuine duration. As Wittgenstein puts it, with ironic understatement, ‘it can hardly be said that one has believed or understood something “uninterruptedly” since yesterday’ (*RPPH* §45).<sup>10</sup> Our knowledge and understanding, our beliefs and intentions *last for a time*, and sometimes (with beliefs and intentions if not with knowledge and understanding) we might even be able to fix both the moment the disposition was formed and the moment it was lost. But that is all: for dispositions to be part of the temporal order, along with their possessors, is not the same as their having genuine duration in the sense specified by Wittgenstein’s three contrasts.<sup>11</sup>

**I.2.** In a way entirely familiar from the *Philosophical Investigations*, Wittgenstein makes no explicit connection between this discussion of dispositions and states of consciousness and the proposed ‘treatment of psychological concepts,’ begun a few remarks later:

Plan for the treatment of psychological concepts.

Psychological verbs characterized by the fact that the third person of the present is to be identified by observation, the first person not.

Sentences in the third person of the present: information. In the first person present: expression. ((Not quite right.))

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9 It might be possible to do the same for the precise moment one *loses* a particular belief or changes one’s mind about what to do (though, except in certain medical cases, hardly for the precise moment after which one no longer knows or understands).

10 See also the following passages from *Wittgenstein’s Lectures on Philosophical Psychology 1946–1947* (henceforth *LPP*): ‘It’s OK to say “I saw/was in pain/was angry uninterruptedly” but not “I believed uninterruptedly, I knew uninterruptedly”. “I intended uninterruptedly” has sense because I may change my intention; but even so there is no question of keeping watch on an intention to see if it changes’ (91). And: ‘If someone says “I intended to go to x” we don’t ask “Did you intend to go all the time between making up your mind to go and going?” There is no answer here since there is no question.’ (322)

11 What I have said in this paragraph seems to me sufficient to defend Wittgenstein’s distinction between states of consciousness and dispositions against the objections of Malcom Budd (see Budd 1989, 13–15).



The first person of the present akin to an expression.

Sense-impressions: their inner connections and analogies.

All have genuine duration. Possibility of being synchronized, of simultaneous occurrence.

All have degrees and qualitative mixtures. Degree: scarcely perceptible–unbearable.

In this sense there is no sensation of position or movement.

Place of sensation in the body: differentiates seeing and hearing from the sensation of pressure, temperature, taste and pain.

[...]

One *knows* the position of one's limbs and their movement. One can give them if asked, for example. Just as one also knows the place of a sensation (pain) in the body.

Reaction of touching the painful place.

No local sign about the sensation. Any more than a temporal sign about a memory-image. (Temporal signs in a photograph.)

Pain differentiated from other sense-impressions by a characteristic expression. This makes it akin to joy (which is not a sense-experience).

'Sense-impressions give us knowledge of the external world.'

Images:

Auditory images, visual images—how are they distinguished from sensations? Not by 'vivacity'.

Images tell us nothing, right or wrong, about the external world. (Images are not hallucinations, nor yet fancies.)

While I am looking at an object, I cannot imagine it.

Difference between the language-games: 'Look at this figure!' and 'Imagine this figure!'

Images are subject to the will.

Images are not pictures. I do not tell what object I am imagining by the resemblance between it and the image.

Asked 'What image do you have?' one can answer with a picture. (RPPII §63).<sup>12</sup>

I have quoted Wittgenstein directly and extensively for two reasons. First, by an abrupt transition from a general characterization of psychological concepts to a consideration of sense-impressions, sensations and mental

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12 The sentence about the first person of the present being akin to an expression was added by Wittgenstein later (see Z §472). I have modified the translation by consistently rendering 'Empfindung' as 'sensation', and also by retaining Wittgenstein's distinction between sense-impressions (*Sinnesempfindungen*) and sensations (*Empfindungen*).

images Wittgenstein lays himself open to misinterpretation: but an unprejudiced look at what he actually says here and in §148 (where emotions are considered in a similar manner) should be sufficient to remove the misunderstanding. Second, Wittgenstein's text shows more effectively than the usual sort of paraphrase could do to what extent he is interested in the differences as well as the similarities between the concepts described: this in itself should make us doubt the widely shared view that Wittgenstein's principal aim here—surely one of the last things to be expected from the author of *Philosophical Investigations!*—is to provide a mere taxonomy of psychological concepts.<sup>13</sup> I shall now take these points in turn.

**I.3.** In a way similar to what he often does in the *Investigations*, Wittgenstein at this point leaves to the reader to tie together different parts of his discussion. He has suggested that psychological verbs, and thereby also psychological concepts, are characterized by two related features. (A) A form of the 1st person/3rd person asymmetry: third person present tense statements in which such verbs occur are established by observation, while this is not true of their first person counterparts. (B) A difference in the typical use of such statements, though this is proposed more tentatively: a third person statement of this kind, 'A is  $\phi$ ', provides information about A, while its first person counterpart, 'I am  $\phi$ ', is an expression (or manifestation) of A's being  $\phi$ .<sup>14</sup> Here a more conventional philosopher might have invoked explicitly the recently established distinction between states of consciousness and dispositions, saying that he would begin his consideration of psychological concepts with verbs for the former, while leaving verbs for dispositions for later or separate treatment. This is in fact *exactly* what Wittgenstein did, of course without providing the introductory explanation. The first specific thing he says about sense-impressions is that they 'all have genuine duration', just as the first specific thing he says about emotions (*Gemütsbewegungen*) is: 'Common to them: genuine duration, a course' (RPPII §148). The reader is counted upon to understand that if this is indeed so, then they possess the feature defining states of consciousness within the broader realm of the psychological and thus *are* states of consciousness. In the same way, when Wittgenstein asks about auditory and visual images, 'How are they distinguished from sensations?'

13 The term 'classification' *does* occur at the beginning of §148 ('Continuation of the classification of psychological concepts'), but the actual content of §63 and §148 shows that it should be seen as a near equivalent of 'treatment' used at the beginning of §63 rather than as an open invitation for constructing taxonomic tree-diagrams as some commentators do (see, e.g., Schulte 1993, 28, 31; Budd 1989, 13).

14 I am assuming, though I shall not argue the point here, that Wittgenstein does not take 'I am  $\phi$ ' being an expression or manifestation of A's  $\phi$  (pain, sadness, fear, etc.) as a reason for saying that first person present tense psychological utterances lack truth-value; unlike some of his early followers (e.g., Norman Malcolm), Wittgenstein was not an 'expressivist'. For reasons why the 'expressivist' position has little to recommend it in any case, see Geach 1965, 1979.

the first thing the reader is supposed to grasp is something that he is not explicitly told, and that is that they have genuine duration. For if that were not the case, the question itself would hardly make sense.

**I.4.** Everyone familiar with the second volume of *Remarks on the Philosophy of Psychology* knows that §63 and §148 are the only places where Wittgenstein's 'treatment of psychological concepts' takes precisely this form. But, given that TS 232, the typescript published as *RPPII*, is very far from a finished work,<sup>15</sup> why assume—as many commentators seem to do—that Wittgenstein ever saw what he says here about sensations,<sup>16</sup> images and emotions as in any sense a complete, i.e. extensionally adequate treatment of psychological concepts? Yet Hacker says, as if he were dealing with a complete classificatory scheme: 'The three general categories [sc. sensations, images and emotions] are patently insufficient to accommodate everything that we might wish to subsume under the heading of "psychological concepts".'<sup>17</sup> Apart from anything else, this seems to charge Wittgenstein with forgetting *his own* general characterization of psychological concepts, given precisely in *RPPII* §63: for Hacker's 'three general categories' are, of course, only a small part of the conceptual field covered by the 1st person/3rd person asymmetry introduced there by Wittgenstein.

Hacker's slip would not have been worth mentioning had it been characteristic of its author alone. Schulte and Budd, however—surely no less than Hacker among the most reliable interpreters of Wittgenstein's philosophy of mind—at least come very near to making the same mistake. Schulte says, comparing *RPPII* §§63, 148 with an earlier sketch of the same terrain in *RPPI* §836, that 'the new classification... is divided into three parts.'<sup>18</sup> This, I think, is naturally read as assuming, in Hacker's manner, that Wittgenstein would have been at least tempted to present what is now *RPPII* §§63, 148 as a self-contained 'classification', thus overlooking its obviously unfinished character in the light of his own general characterization of psychological concepts. But the suggestion that *RPPII* §§63, 148 could be seen as anything but an incomplete treatment of its topic is any case preposterous: in talking of Wittgenstein's 'new classification divided into three parts', Schulte has apparently forgotten his own careful comments on the way in which the two typescripts published as *RPPI* and *RPPII* represent work in progress.<sup>19</sup> Even Malcolm Budd, who sees that there is much more to *RPPII* §§63, 148

15 On this, see very useful remarks on TS 229 (= *RPPI*) and TS 232 in Schulte 1993, 1–10.

16 Most commentators lump together 'Sinnesempfindungen' and 'Empfindungen' as 'sensations', and I am following their practice in this and the following paragraph while I am discussing their views.

17 Hacker 1996, 142.

18 Schulte 1993, 30.

19 See above, fn. 15.

than merely classifying certain psychological concepts—he rightly says that Wittgenstein’s ‘scheme of classification’ provides ‘miniature studies of the concepts it depicts’—seems to ignore its unfinished character. He just says that ‘it is restricted to the concepts of sensations, images, and emotions,’ without realizing that talking in this way begs the question of whether we have before us a completed ‘scheme of classification’ or merely the beginnings of one.<sup>20</sup>

Failing to see the connection that ties Wittgenstein’s distinction between states of consciousness and dispositions to his opening ‘treatment of psychological concepts’ (§63) and its ‘continuation’ (§148), none of the three commentators attempt to make sense of §§63, 148 in the broader context of *RPPII*. It is this failure that explains their at first puzzling willingness to take what is clearly work in progress as a finished but flawed product. For the ‘miniature studies of the concepts’ under discussion in §63 and §148 have many affinities with Wittgenstein’s treatment of other concepts elsewhere in *RPPII*, e.g. those of thinking or intention or states of mind (*Seelenzustände*). To establish what these affinities are is to understand the nature of Wittgenstein’s concerns in *RPPII*,<sup>21</sup> which are very nearly the same as some of his concerns in the *Philosophical Investigations* but in certain respects represent new developments. But this can be done only after the misunderstanding I have been discussing is laid to rest: i.e., the misunderstanding of seeing an original and important (though clearly uncompleted) line of thought as merely an attempt to provide a classification of psychological concepts, a project that evidently has little in common with Wittgenstein’s concerns in the *Philosophical Investigations*.

**I.5.** The terse, summarizing style of §63 and §148, which records in a neutral manner the differences as well as the similarities between the concepts being considered, is one clue to what Wittgenstein is trying to achieve in his post-*Investigations* explorations of psychological concepts. Unlike the long, dialectical discussions of rule-following or the possibility of an essentially private language in the *Investigations*, these ‘miniature studies’ seem directly inspired by the idea that philosophy should avoid all explanation and aim instead at such descriptions of our language-games that would reveal the main features of our concepts. This conception, familiar from the *Investigations*, is perhaps best expressed in a remark Wittgenstein cut out from *The Big Typescript* and preserved for *Zettel* (Z §447). The remark ends with the sentence: ‘We want to replace wild conjectures and explanations by quiet consideration of linguistic facts.’ But what gives point to this sentence, naturally understood out of context as merely another expression of Wittgenstein’s banishing explanation from philosophy in favour of description, is the striking picture to which it serves as the conclusion:

20 Budd 1989, 10.

21 Most of these concerns, of course, are also present in the first volume of the *Remarks*.

Disquiet in philosophy might be said to arise from looking at philosophy wrongly, seeing it wrongly, namely as if it were divided into (endless) longitudinal strips instead of into (limited) cross strips... So it is as if we wanted to grasp the unlimited strips and complained that it can't be done piece by piece. Of course not, if by a piece one means an endless longitudinal strip. But it might be done, if one means a cross strip. — But in that case we never get to the end of our work! — Of course not, for it has no end.

Taken as a whole, the remark expresses beautifully a central strand in Wittgenstein's conception of philosophy. Instead of trying to deal with philosophical questions as if we were cutting an endless longitudinal strip lengthwise into thinner sections we should try to cut it into limited cross strips: this corresponds to renouncing attempts at a final solution of philosophical problems as an impossible task and settling instead for a piecemeal approach, where 'problems are solved (difficulties eliminated), not a *single* problem' (*PI* §133).<sup>22</sup>

It is this strand, I suggest, that exerts a dominant influence on his explorations of psychological concepts in the second and (though to a lesser degree) also in the first volume of the *Remarks*. If we look at §63 in its immediate context, we see that it is preceded by Wittgenstein's introducing the distinction between states of consciousness and dispositions and the idea of genuine duration in terms of which the distinction is given substance: as I have already argued, both are essential to his entire treatment of psychological concepts. It is then followed by a long, careful discussion of the differences that separate visualizing from seeing, and visual images from visual impressions; except for a few stray remarks (§§102–106), this continues until §148 where Wittgenstein leaves the topic of perception and imagination to give his summary account of the emotions. Using a variety of examples, the discussion of seeing and visualizing aims to make clear how remarks like 'Mental images are subject to the will' ('Mental images are not hallucinations', 'Mental images are not pictures', etc.) have to be understood if we are to accept them as genuinely characterizing the concept of a mental image rather than simply being empirical statements about mental images.<sup>23</sup> In one good sense of this over-used word, this might be called *clarifying* the concept of an F (here, that of a mental image) or, alternatively, *clarifying* the established use of the term 'F' (here, 'mental image'). In terms of Wittgenstein's picture of

22 This famous sentence also comes originally from *The Big Typescript* where it occurs just before the picture of the two kinds of strips. 'Endless' (*endlos*) and 'limited' (*begrenzt*), incidentally, is the wording in *Zettel*. In *The Big Typescript* the strips are 'infinite' (*unendlich*) and 'finite' (*endlich*).

23 'Mental image' is often a more natural translation of 'Vorstellung' than 'image' without any qualification, and I have used it here and elsewhere when not directly quoting Wittgenstein.

the two ways of doing philosophy, the set of remarks he makes about mental images in §63,<sup>24</sup> *together with* the necessary clarifications, might be compared to a (limited) cross strip.

**I.6.** To see why remarks like ‘Mental images are subject to the will’, ‘Mental images are not pictures’, etc. must be considered together with the appropriate clarifications if they are to achieve Wittgenstein’s purpose, let us consider in more detail another example from §63, this time dealing with sense-impressions rather than with mental images: ‘Sense-impressions give us knowledge of the external world.’ To show how this remark should be taken, Wittgenstein makes a distinction between two possible ways of understanding the connection between sense-impressions and knowledge of the external world: ‘What is common to sense-experiences? — The answer that they give us knowledge of the external world is both wrong and right. It is right in so far as it points to a *logical* criterion.’<sup>25</sup>

Wittgenstein does not explain what he means here by a ‘logical criterion’, but I think it is safe to assume that he is invoking it to deny that ‘Sense-impressions give us knowledge of the external world’ is an empirical statement. Understood in that way, it would mean that it was *established* that reliance on the five senses provides knowledge about the world we live in, although it *might have failed* to do so. It is assumed, in other words, that the reliance on what we see, hear, touch, taste, etc. could have turned out to be systematically misleading or at least no more successful than guesswork; and in that case, of course, there would be no reason to think of the beliefs formed in that way as knowledge. A moment’s reflection, however, shows that the possibility here envisaged is illusory: what it would be like to establish that the senses do *not* inform us about the external world although, if we had been more fortunate, they might have done so? Our sense-impressions may lead us to form false beliefs in particular cases, but the supposition that they may be systematically misleading or only randomly successful, with no possibility of correction, is logically incoherent: after all, given human cognitive capacities, any attempt to establish this supposition itself would, *inter alia*, have to assume that at least in *this* instance the senses are trustworthy. This is no doubt why Wittgenstein accepts that sense-impressions give us knowledge of the external world only if this is understood as a ‘logical’ or ‘grammatical’ remark, not as an empirical assertion that could have turned out to be false.<sup>26</sup>

24 Or a somewhat enlarged set, characterizing more fully the same concept of mental image.

25 *RPPI* §702. The English translation here (‘The answer... is partly wrong and partly right’) is quite misleading.

26 The following passage from *LPP* 191–192 seems to say as much: ‘Suppose one said “Sense-experience is experience by which we get to know physical objects.” It sounds as though you *happened* to get to know physical objects by experience. No, I do not want to say that. What I say is logical.’

I shall set aside the much-discussed question how, apart from their non-empirical character, Wittgenstein's 'grammatical' remarks are to be understood and, once the question is answered, whether we should agree with Wittgenstein. It is clear that he denies that such remarks are necessary truths but rather thinks of them as having the character of conventions involved in our language-games and thus as not to be assessed as true or false. They are partly constitutive of how we use words for given concepts<sup>27</sup> but apart from affording clarification when understood in the right way they cannot be justified further: the language-games themselves, and the forms of life in which they are embedded, are the final court of appeal and in that sense grammar is arbitrary.<sup>28</sup>

**I.7.** The reasoning I have attributed to Wittgenstein in order to explain his remark about sense-impressions and our knowledge of the external world is of a piece with other things he says about perception in the *Remarks*. He tacitly rejects any attempt to tie ordinary seeing to anything like the philosophers' sense-data:

'Do you see the way she's coming through the door?' — and now one imitates it.

That is to say, 'seeing' is inseparably connected with 'looking'. [...]

The words which describe what we see are<sup>29</sup> properties of things, their meaning is not learnt in connection with the concept of 'inner seeing'. (*RPPII* §§67–68)

'Seeing' is in the same way closely tied to 'observing': 'I learn the concept "seeing" along with the description of what I see. I learn to observe and to describe what I observe. [...] When we learn how to use "see" we learn to use it simultaneously and in conjunction with "look", with "observe", etc.' (*RPPII* §§111, 135) In other words, applying the ordinary concept of seeing which we all use (and also that of hearing, touching, etc.) I cannot but find myself in the external world and in a position to learn about it: that is what is expressed, as I have tried to show, by Wittgenstein's remark that senses give us knowledge of the external world.<sup>30</sup>

27 Both very general ones such as that of a sense-impression and more specific ones expressed by 'see', 'hear', etc.

28 On the arbitrariness of grammar, see Forster 2004, and for a brief recent treatment Forster 2017. On the question whether we should agree with Wittgenstein or accept the contrary view that many remarks he describes as 'grammatical' (e.g., 'Nothing can be red and green all over at the same time') do not lack truth-value but express necessary truths, see the recent debate between Javier Kalhat (Kalhat 2008) and Hans-Johann Glock (Glock 2008).

29 This is clearly a slip, the word needed here is, e.g., 'relate to' or 'refer to'.

30 The bearing of Wittgenstein's remark on radical scepticism lies outside the scope of this paper. Of the recent literature on scepticism partly inspired by Wittgenstein, the second and third chapter of Genia Schönbaumsfeld's *The Illusion of Doubt* seem to me closest to what he says on perception in *RPPII* (see Schönbaumsfeld 2016, 29–106).



I hope it is also clear why such remarks are revealing of the structure of our concepts only when they are properly clarified: without such clarification they would neither help us to a reflective understanding of our concepts nor be of help in dispelling philosophical misconceptions arising from a misunderstanding of how they are actually applied. Thus, we often speak of the ‘content of experience’ and this in itself need not lead to any misconception or confusion. But there is, as Wittgenstein says, a line of thought to which we are tempted when we are thinking about the content of experience: ‘One would like to say “I see red *thus*”, “I hear the note that you strike *thus*”, “I feel pleasure *thus*”, “I feel sadness *thus*”, and also “*This* is what one feels when one is sad; *this*, when one is glad”, etc. One would like to people a world, analogous to the physical one, with these *thuses* and *thises*.’ (RPPI §896)

The first step here is innocent enough, at least in the case of seeing and hearing: one naturally uses such sentences as Wittgenstein mentions together with pointing to a colour sample (of whatever shade of red one is thinking of) or reproducing the note in question in whatever way one thinks right. Using these sentences accompanied by such ostensive gestures is something that happens in the physical world: whatever visual or auditory impression one has, there is so far no reason to conclude that one has somehow exchanged the external world of material objects for a purely inner world, ‘analogous to the physical one’.

**I.8.** Yet if for whatever reason this conclusion is accepted, the initially innocent train of thought quickly leads to the consequences familiar from the writings of Wittgenstein’s contemporaries like Russell and Carnap. The perceived sensory qualities, defined ostensively, are transformed into sense-data, object-like inhabitants of an inner, non-physical world. The external world itself is then correlatively transformed into a ‘posit’, the existence of which is *inferred* from the evidence provided by sense-data; or into a ‘logical construction out of’ sense-data, where its existence is not inferred but is (hopefully) *reduced* to sets of actual and potential sense-data. The undoubted logical sophistication of such attempts cannot quite hide the fact that these are, from a Wittgensteinian perspective, ‘only houses of cards’ (PI §118), erected through a misunderstanding of the ‘workings of our language’ (PI §109), a misunderstanding that is helped, and made to seem almost inevitable, by some unexamined assumptions about knowledge and certainty.

Wittgenstein diagnoses the point where the train of thought about the content of experience slides into error in the next and last sentence of RPPI §896: ‘But this makes sense only where there is a picture of *what is experienced*, to which one can point as one makes these statements.’ In other words, it is only where the sensory qualities can be drawn attention to, as being exemplified in the physical world, that the idea of the content of experience does not lend itself to philosophical misconceptions; for in that case there is no suggestion that ‘peopling a world, analogous to a physical one’



is more than a philosophically harmless metaphor. If, on the other hand, we think of the experience-content (*Erlebnisinhalt*) as what can be represented in a picture, but the picture itself is understood 'in its subjective meaning', as conveying just 'This is what I see—whatever may have produced it', we will quickly reach the confused and confusing conclusion that 'the experience-content is the private *object*' (RPPI §694).<sup>31</sup>

**I.9.** It is important to realize that Wittgenstein's diagnosis here relies on his understanding of the crucial point that senses give us knowledge of the external world. It assumes, that is to say, that ordinary statements about what is seen (heard, touched, etc.) relate to our common, shared world, whether they are true or false, and that this is *not* something we have established, since it is inseparable from our applying the concepts of seeing (hearing, touching, etc.) at all; without that assumption, the diagnosis would have been open to the charge of begging the question. The philosophers I have mentioned would have been justified in complaining that, according to their own view, the senses give us knowledge of the external world precisely because the 'inner experiences' they afford us and their content provide the ultimate and only secure foundation of such knowledge. It simply would not have occurred to them that their traditional empiricist assumptions could be undercut in Wittgenstein's way, through a careful look at our ordinary concepts of seeing and other modes of perceiving.<sup>32</sup> If Wittgenstein is right, the philosophical friends of sense-data have to do more than just engage with the supposedly uncritical beliefs of common sense; they also have to replace our everyday concepts of seeing (hearing, touching, etc.) with alternative ones that apply directly to the inner, non-physical world. In that case, however, their new concepts would be a legitimate target of all the arguments brought forward in the *Philosophical Investigations* against the idea of private ostensive definition and its supposed internal correlate: for the external circumstances that make possible both the usual ostensive definitions of sensory qualities, and the extensive agreement in judgements (of colour, taste, etc.) rightly insisted on by Wittgenstein, would no longer be there.

I have spent some time on what Wittgenstein says about perceptual concepts in the *Remarks* in order to suggest that his observations, though often widely scattered through both volumes, represent a single, internally consistent point of view within which purely classificatory concerns are of little importance. I have also wanted to show how his mode of procedure in

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31 The same confused conception of the content of experience is under attack in RPPI §109: 'The content of an experience is the private object, the sense-datum, the "object" that I grasp immediately with the mental eye, ear, etc. The inner picture. — But where is this concept needed?'

32 I obviously cannot demonstrate this here, but I hope that any perusal of Russell's *Our Knowledge of the External World* or Carnap's *Der Logische Aufbau der Welt* would be sufficient to make my claim at least plausible.

discussing psychological concepts agrees with his striking picture of the right way of doing philosophy.<sup>33</sup> Properly understood, the truism that senses give us knowledge of the external world is consonant with, and may be used to make sense of, various significant facts about perception: that the concept of seeing is learnt together with the concepts of looking and observing (the concept of hearing together with the concept of listening, etc.); that in the language-games with perceptual concepts the original and basic form of statement is ‘This *is* red’ rather than ‘This *looks* red’ (‘This *is* hard’ rather than ‘This *feels* hard’, etc.),<sup>34</sup> and so on. At the same time the truism about the senses allows us to clear away confusions and misunderstandings that easily arise, given the complexities of our ways of talking in this area, particularly about what is seen.<sup>35</sup> And talking of the ‘content of experience’ is only one example of an idiom that may lead to confused ideas about the private world of sense-data as the materials out of which each one of us ‘logically constructs’ the external world or, alternatively, as the evidence on the basis of which each one of us infers its existence. All this is achieved through ‘quiet consideration of linguistic facts’: ‘wild conjectures and explanations’ of philosophers, for example Russell’s on how we know the external world,<sup>36</sup> can now with some justification be laid aside as resulting from a combination of linguistic confusions and unexamined assumptions about knowledge and certainty. At least in this case, Wittgenstein’s conception of what philosophy should do seems to be in full accord with his practice.

## II

**II.1.** To present clearly the broad outlines of Wittgenstein’s treatment of psychological concepts is a daunting task. Even if we leave aside the obviously unfinished character of the *Remarks*, there remain the inherent difficulties of his approach to any subject, an approach memorably described by himself in the preface to the *Investigations* as involving a compulsion to ‘travel criss-cross in every direction over a wide field of thought’. Thus, any attempt at an *Übersicht* of what Wittgenstein had to say on psychological concepts will inevitably fall short in many ways: no brief account, for instance, will be able to give an adequate idea of the suggestive analogies or imaginative thought experiments we find on so many pages of the *Remarks*, nor even to do justice to the entire range of psychological concepts considered by Wittgenstein.

Bearing these various difficulties in mind, the best course may be to adopt a conservative approach. Instead of presenting Wittgenstein’s treatment

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33 See above, I.5.

34 *RPPI* §896. The point is developed brilliantly in *RPPII* §§311–319.

35 Cf. *RPPII* §§452–453 = *PPF* §§160–161.

36 See Russell [1914] 1961, 70–105.

of psychological concepts in terms of some interpretive scheme of my own, I shall try to follow the order of his own exposition in *RPPII*, which (as we saw) is initially clear but then after the account of the emotions in §148 suddenly seems to start meandering in every direction though without leaving the general field of philosophical psychology. It may be argued, however, that a more careful look shows the appearance of meandering in every direction to be somewhat deceptive. Particularly in the part of *RPPII* from §45 to, say, §283 or §289 (with §§1–44 serving as a sort of prologue and subsequent remarks such as §§418–420, 498–500, 564–577, 648–649 and 722–730 playing the role of later additions) there is a discernible conceptual thread holding the entire discussion together; and it is this thread that I hope first to bring out and then use to describe the main themes and concerns of Wittgenstein's account of psychological concepts.<sup>37</sup>

The thread makes its appearance, as I have already suggested, with the distinction between states of consciousness and dispositions and the idea of genuine duration in terms of which the former are distinguished from the latter. Wittgenstein then proceeds, though without explicit acknowledgement, to divide provisionally the field of psychological concepts along the lines of this distinction. He is able to do this because concepts on both sides of the divide clearly satisfy the general condition he offers as defining all psychological concepts: the asymmetry between the first person present tense statements and their third person counterparts (the former *not* established by observation, the latter established by observation) holds whether we are dealing with 'I see grey clouds', 'I am in pain', 'I am sad', etc., on the one hand, or with 'I believe it's going to rain', 'I know there's little justice in the world', 'I intend to go to Rome next summer', etc., on the other.

**II.2.** Wittgenstein's philosophical interests being what they were at the time of the *Remarks*—at one point, discussing pain, he explicitly asks 'What is the place here of the conceptual and what of the phenomenal?' (*RPPI* §662)—it was natural for him to begin with the states of consciousness side of the divide. The concepts we use to deal with sense-impressions, sensations and mental images present a particularly convenient starting point because they have no use in which, as it were, they might cross the divide or make us realize that applying the distinction between states of consciousness and dispositions may not be an entirely straightforward matter as it is, say, in the case of knowing and seeing or knowing and hearing (*RPPII* §§52–56). This is largely, if not entirely, true of the concepts relating to the emotions as well, and I think that is why, apart from particular emotions being connected to characteristic sensations, they are discussed just after the first group.

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37 It bears repeating that *RPPI* also contains much relevant material, both in the form of more or less isolated remarks and, in several cases, of longer sets of remarks dealing with the same subject, e.g., thinking or seeing or states of mind.

The concepts Wittgenstein discusses next—those of states of mind, thinking and intention—all spell trouble of one sort or another for anyone who tries to see them as applying straightforwardly to either states of consciousness or dispositions. The easiest case to accommodate is that of states of mind (*Seelenzustände*). This is Wittgenstein's preferred term for states which are rather like the emotions in that they have genuine duration but also unlike them in that they have less affective content and are more narrowly tied to dispositions like hope, fear (in one sense of the word), expectation and belief: both in the *Investigations* (PI §577) and here, Wittgenstein is inclined to see them as specific manifestations of such dispositions. Thus, the difficulty is resolved by distinguishing two different if related applications of these concepts: as Wittgenstein says in the *Investigations* and repeats here (RPPII §164), 'we could imagine a language in which different verbs were consistently used in these cases' (PI §577).

The concepts of thinking and intention, however, have widely divergent applications, and the difficulties here are greater. We speak of thinking and intention in cases that intuitively call for an 'adverbial' account (e.g., thinking involved in our not speaking thoughtlessly or, as Wittgenstein says, without thought; thinking involved in acting intelligently, when one is 'thinking what one is doing'; acting intentionally or, more specifically, acting with a further intention); and others where this does not seem to be the case (thinking as a mental activity, intention as a disposition of a special kind). Different uses of these concepts behave very differently with respect to the notion of genuine duration: it applies to thinking as a mental activity, just as it does to states of consciousness and states of mind, but hardly to any of the other cases mentioned.

Any general treatment of psychological concepts that explicitly aims at *Übersichtlichkeit*, a clear view of the structure of our concepts and their interrelations, as Wittgenstein's does,<sup>38</sup> has to address these issues, and this is exactly what he does. Directly after his account of the emotions and some related remarks (RPPII §§149–153), Wittgenstein proceeds to discuss states of mind (§§154–175, 177) and intention (§§176, 178–182); after that there is a long discussion of thinking (§§183–240, 248–267, with an interlude on intention at 241–247),<sup>39</sup> followed by another look at intention (§§271–276) and belief (§§279–283).<sup>40</sup> The resulting picture is, of course, only a first sketch of the terrain from Wittgenstein's chosen point of view, that of the

38 See RPPI §895, where the aim of his investigations of psychological phenomena is said to be 'not exactness but Übersichtlichkeit'.

39 There are also a few unrelated remarks on colour (§§196–199) and seeing as (§219).

40 There are some vaguely related observations on knowledge (§§277–278, 284–289), and then the remarks begin to deal with various topics, with no dominant connecting thread. Many are about colours, seeing, and particularly seeing as: apart from the general account of psychological concepts with which I am concerned here, this is the other great subject in both volumes of the *Remarks*. I shall have little to say about seeing as, however, since

relationship between the conceptual and the phenomenal in our most basic language-games: but it is a sketch of such clarity and (occasional) brilliance that it deserves far more attention than it seems to have received both by Wittgenstein's commentators and by philosophers of mind.

**II.3.** Let us now look briefly at what Wittgenstein says about the emotions. They have 'genuine duration, a course': 'anger flares up, abates, vanishes, and likewise joy, depression, fear'. They differ from sensations in being neither 'localized nor diffuse'. They have characteristic behavioural expression, and 'this by itself also implies characteristic sensations'. But the sensations are not the emotions, as 'the numeral 2 is not the number 2'. Another 'grammatical' difference from sensations, here understood widely to include sense-impressions, is that 'they do not give us any information about the external world' (*RPPII* §148).

In addition to these features common to all emotions, Wittgenstein also suggests how they are differentiated among themselves, and this seems to provide a significant clue on how he came to recognize the related category of states of mind:

Among the emotions the directed might be distinguished from the undirected. Fear *of* something, joy *over* something.

This something is the object, not the cause of the emotion.

The language-game 'I am afraid' already contains the object.

'Anxiety' is what undirected fear might be called, in so far as its manifestations are related to those of fear.

The *content* of an emotion—here one imagines something like a *picture*, or something of which a picture can be made. (The darkness of depression which descends on a man, the flames of anger.)

The human face too might be called such a picture and its alterations might represent the *course* of a passion.<sup>41</sup>

[...]

Love and hate might be called emotional dispositions, and so might fear in one sense.

It is one thing to feel acute fear, and another to have a 'chronic' fear of someone. But fear is not a sensation. (*RPPII* §148)

Joachim Schulte has criticized Wittgenstein for saying that all emotions have genuine duration (Schulte 2009, 27–28), but this objection seems to be based on a misunderstanding. Wittgenstein is careful to point out that love, hate and 'fear in one sense' are not *Gemütsbewegungen* but should rather be

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Wittgenstein's extended discussions of it here are superseded by his definitive treatment of the topic in section xi of *PPF* (or, if one prefers, of *PI*, Part II).

41 Cf. 'We do not see facial contortions and *infer* that he is feeling joy, grief, boredom. We describe a face immediately as sad, radiant, bored, even when we are unable to give any other description of its features.' (*RPPII* §570)

called ‘emotional dispositions’ (*Gemütsdispositionen*): and there are no doubt other cases analogous to ‘fear’, where an emotion-word, e.g. ‘jealousy’, has both an occurrent and a dispositional use. Wittgenstein assumes, I think rightly, that these two uses can be clearly distinguished, and any sympathetic reader can see that his main interest here is in the former; this comes out in his tacitly reserving the term *Gemütsbewegung* for that use only and introducing the term *Gemütsdisposition* for the latter. Schulte ignores this completely: it is as if he thinks that the emotions are just there for our inspection, as so many soldiers standing on the parade ground, and then, as it happens, it turns out that only some of them pass muster, i.e. have genuine duration.<sup>42</sup>

Reasons of space prevent me from discussing further Wittgenstein’s carefully constructed account of the emotions. Some of its features are distinctive (the idea of the content of an emotion), while others (the connection with sensations, the insistence on characteristic behavioural expression, the distinction between the object and the cause of an emotion) may be interestingly compared with later philosophical studies of the same field.

**II.4.** Wittgenstein, I think, noticed that in an ordinary, unreflective way we often talk of ‘*Seelenzustände*’ or ‘states of mind’, these being similar to the emotions through having genuine duration and some affective colouring but also unlike them in an important respect: for they do not appear to be *either* directed at an object *or* undirected, lacking an object, in the sense specified here by Wittgenstein. They are tied instead to the content of a ‘propositional attitude’, say hope or expectation, specified (or in principle specifiable) by a that-clause. Cases where we talk in this way, however, are not to be assimilated to the usual use of sentences like ‘I hope that he will come’ or ‘I expect they’ll be late’. They are different because they involve genuine duration:

I say to myself ‘I still keep on hoping, although...’ and in saying it I as it were shake my head over myself. That means something quite other than simply ‘I hope...!’ (The difference in English between ‘I am hoping’ and ‘I hope’.)

And what is observed by observing your own hope? What would you *report*? Various things. ‘I hope every day... I imagined... Every day I said to myself... I sighed... Every day I took this route in the hope...’ (RPPI §§465–466)

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42 Schulte has other objections to Wittgenstein’s account as well, but they seem to show the same sort of misunderstanding: e.g., he says that ‘another problem turns up when one discusses emotions that do not last long enough, as it were, to speak of “genuine duration”, for instance being surprised or being startled, since ‘in most cases’ they are over ‘in a matter of seconds’ (Schulte 2009, 28). Cases of this kind are implicitly excluded by Wittgenstein’s attributing to emotions ‘a course’; but *if* we want to mark their similarity to undoubted emotions (there is no agreement either within psychology or outside it that being surprised or being startled *are* emotions), we might perhaps call them *emotional reactions*.



A direct comparison between such a case and one where 'I hope...' is an expression (*Außerung*) of hope, an instance of 'hoping behaviour' (*Hoffnungsbenehmen*), as Wittgenstein puts it (*RPPI* §§460), and thus does not report or describe anything, shows the difference clearly:

Is 'I hope...' a description of a state of mind? A state of mind has duration. So if I say 'I have been hoping for the whole day...', that is such a description. But suppose I say to someone, 'I hope you come'—what if he asks me 'For how long have you been hoping that?' Is the answer 'For as long as I've been saying so'? Supposing I had some answer or other to that question, would it not be quite irrelevant to the purpose of the words 'I hope you'll come'? (*RPPII* §722)

Where hope or expectation or fear, or even belief,<sup>43</sup> is a state of mind rather than a 'propositional attitude', we always find the subject occupied with thoughts of what is hoped for, expected or feared (*RPPII* §§154–155), and there may be feelings or gestures or acts expressive of her hope, expectation or fear. But even though Wittgenstein talks here of the 'object' of hope, etc., an 'object' of this kind should not be confused with the object of a directed emotion like the 'fear of a dog barking at me' (*RPPII* §§154). The 'object' of hope or expectation or propositional fear owes its identity to the corresponding that-clause (cf. *Z* §58): it is not an object in the sense in which Desdemona is the object of Othello's jealousy or Othello of Iago's hatred. That is why such states of mind, unlike the emotions, may be thought of as manifesting the corresponding dispositions, and also, I think, why Wittgenstein respects ordinary usage and never calls them 'states of consciousness' in spite of their having genuine duration.

**II.5.** Wittgenstein's discussions of intention and thinking involve an important distinction that I have not mentioned so far. With the notion of the asymmetry between the first person present tense psychological statements and their third person counterparts, the former unlike the latter *not* established by observation, he had managed to find an indisputable core in the traditional idea of our having privileged access to our own minds. In a somewhat similar fashion, he had also managed to make usable the equally venerable idea of the mind as active in some cases (e.g., in thinking) and passive in others (e.g.,

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43 In the case of belief Wittgenstein is pulled in opposite directions: he sometimes denies that we may speak of it as a state of mind in this sense (e.g., *RPPII* §§154–155), and sometimes does so himself (e.g., *PI* §577), at least in one case producing a very convincing example (*RPPI* §597). This seems to be a case of genuine hesitation on Wittgenstein's part, not merely of sensitivity to linguistic nuance which makes him exploit various terminological solutions: e.g. calling hope, expectation or belief dispositions but also states (e.g., *PI* §572) and at least once both at the same time (*PPF* §102 on belief); calling intention a disposition while also wondering whether only felt inclinations should be so called (*RPPII* §178); generally speaking of non-dispositional hope as a state of mind but also saying that it 'may be called an emotion' (*RPPII* §154), etc.

in perception). His version of this traditional distinction contrasts the cases where it makes sense, and cases where it does not make sense, to use the imperative of a psychological verb:

Application of the imperative. Compare these orders:

Raise your arm!

Imagine...!

Work... out in your head!

Consider...!

Concentrate your attention on...!

See this figure as a cube!

with these:

Intend...!

Mean... by these words!

Suspect that this is the case!

Believe that it is so!

Be firmly convinced!

Remember that this happened!

Doubt whether it has happened!

Hope for his return!

Is *this* the difference—that that the first are voluntary, the second involuntary movements of the mind? I would rather say that the words of the second group do not stand for actions. (*Z* §51)<sup>44</sup>

The concepts of thinking and intending are variously connected, and the application of the ‘imperative test’ brings this out with particular clarity:

One may disturb someone in thinking—but in intending? — But certainly in planning. Also in keeping an intention, that is in thinking or acting. (*RPPII* §258)

Thus, the answer to the question ‘Is thinking a mental activity?’ is ‘Yes,’ in so far as one may tell someone ‘Think it over’ (*RPPII* §193), or even ‘Think of nothing at all!’, ‘Make your mind a blank!’ (*RPPI* §353) In general, ‘You can obey an order to summon up thoughts, to call up images—but also, and this is something else, an order to think of something.’ (*RPPI* §759) These cases make it seem as if the idea of thinking as a mental activity is entirely uncontroversial, and in such cases—whatever philosophers or psychologists too impressed by a particular theory might say—this is indeed the case. But if the same notion is extended to apply to meaningful speech or intelligent behaviour in general, so that behind any sentence used in normal conversation or any voluntary act there is an accompanying ‘process of thought’, the

44 The remark dates from 1944–1945. See Maury 1981, 60.



incoherence that results might lead, if we are not careful, to abandoning our concept of thinking and replacing it with some behaviourist substitute.

**II.6.** Simplifying matters somewhat for ease of exposition, we could say that there are three principal contexts of use that we need to consider if we are to clarify our concept of thinking: (a) that where applying it to a person, A, is tied to A's *speaking* or *talking*; (b) that where applying it is tied to A's *acting*; and (c) that where applying it is tied directly to A's *reflecting*, or *considering*, or *musings*, or *deliberating*, or *weighing alternatives*, etc., with seemingly no connection to either A's speaking or A's acting. The third context, (c), is of course the one where we speak in an unforced way of thinking as a mental activity.

In his discussion of thinking in the *Investigations* (§§316–362) Wittgenstein had mostly dealt with (a), showing almost no interest in (b) or (c). In *RPPII*, on the other hand, he concentrates on (b), with some important remarks on (c), while generally taking for granted what he had said on (a) in the *Investigations* and only offering some additional considerations in its support. I shall start with (a) as well, following the apparent order of Wittgenstein's own late reflections on thinking. Such an order might well have been dictated by Wittgenstein's realization, mentioned in *RPPII*, that at an earlier time he had seriously misconceived the relationship between thinking and speaking:

It is not true that thinking is a kind of speaking, as I once said. The concept 'thinking' is categorially different from the concept 'speaking'. But of course thinking is neither an accompaniment of speaking nor of any other process. (*RPPII* §7)

Yet for all that the relationship between speaking and thinking is obviously close; we have only to remind ourselves of a comment like 'What happened? You suddenly stopped thinking what you were saying', to see that there is no denying that speaking and talking normally involve thought. Indeed, any attempt to deny this would be merely foolish: what is debatable is not that speech involves thought, but how precisely it does so.

Wittgenstein's view of the connection is carefully phrased to avoid any suggestion of behaviourist reductionism, but superficially at least it seems to be much closer to behaviourism than to any form of mentalism:

When I think in words, I don't have 'meanings' going through my mind in addition to the verbal expressions; rather, language itself is the vehicle of thinking. (*PI* §329)

It might be argued, however, that the apparent closeness to behaviourism is illusory, an artefact of looking at Wittgenstein's remark against the background of a comparison with behaviourism and mentalism. Taken by itself, the remark merely seems to register what should be obvious to any impartial observer. Except in special cases, when I am trying to find the right

word which eludes me or (more ambitiously) the right way to express what I wish to say, I just talk, conversing normally with others or, occasionally, with myself, whether *sotto voce* or in internal monologue. There does not seem to be any internal process going on all the time 'behind' my spontaneous use of words: any suggestion that there is, that such a process is a regular mental accompaniment of speaking, is a philosophical misconception. This is what Wittgenstein is trying to bring out by formulating the opposing view precisely and asking us to consider the absurd consequences of its acceptance:

One would like to say that [thinking] is what distinguishes speech with thought from talking without thought. — And so it seems to be an accompaniment of speech. A process which may accompany something else or go on by itself.

Say: 'Yes, this pen is blunt. Oh, well, it'll do.' First, thinking it; then without thought; then just think the thought without the words. (*PI* §330)

Wittgenstein adduces further considerations against this conception,<sup>45</sup> according to which thinking would be the mental accompaniment of speaking, intending (presumably) the mental accompaniment of acting, etc. (*PI* §§331–340). But the devastating thought experiment I have just quoted is sufficient to expose its absurdity: thought is involved in speech, as Wittgenstein himself insists and as we all agree, but not in the form of thinking as a regular mental accompaniment of speaking, an accompaniment implicitly thought of as having genuine duration.

The view expressed in *PI* §329 and the dialectical considerations supporting it essentially represent Wittgenstein's way of dealing with (a). A further consideration in its support (*RPPII* §238) is that we would not understand a person who had a pleasant conversation with us and later claimed that he had spoken 'entirely without thought'. This is not because we have established, as a matter of experience, that a person who speaks in this way can hardly do so 'without accompanying processes of thinking'. Rather, the imagined situation brings out that, where someone 'engages in a normal conversation', such postulated 'accompanying processes' are irrelevant and 'do not constitute thinking'.

Different arguments for the same conclusion, involving various imagined situations, are given at *RPPII* §§248–267 and further consequences are drawn. I shall only mention the one discussed in §266 because it involves explicitly the idea of genuine duration. If someone remarks, 'While saying these words I thought...,' his statement does 'refer to the time of speaking', but we cannot

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45 The conception, as stated, falls short of full-fledged or thoroughgoing mentalism as it is silent on the causal role of the mental in relation to behaviour (including speech). But it is a natural position for the mentalist to adopt in response to what Wittgenstein has just claimed in §329.

describe the thinking involved as 'something happening in this stretch of time'. 'I cannot say, e.g., that this or that phase of the process occurred in *this* time segment.' To do so would lead to absurdities analogous to those exposed in *PI* §330. One may describe speaking itself in this way, but not the thinking involved in 'saying these words': thinking here 'cannot really be called a process at all' (§266).

II.7. In *RPPII*, however, the discussion of thinking mostly concentrates on (b), cases where we attribute thinking to someone, A, on the basis of how A acts in doing whatever it is that he is doing, e.g., playing tennis, or repairing a watch, or gardening, or making a piece of furniture to satisfy a customer's wishes, etc.<sup>46</sup> The cases Wittgenstein considers mostly belong to the simpler pole of this very wide field. His central example is carefully described in a long remark that opens the main discussion of thinking (*RPPII* §183). Wittgenstein imagines someone who is 'constructing an appliance out of various bits of stuff with a given set of tools', in a way that involves comparison, trial and error, and choice between different tools at his disposal: the work is neither routine nor mechanical. The person working never speaks but occasionally, at what seem to be appropriate moments, he utters what look like 'sounds of hesitation, sudden finding, satisfaction, dissatisfaction'. Wittgenstein does not say so explicitly, but we are meant to conclude that the entire episode was at least reasonably successful: on the strength of it, for example, the person working would not be criticized as incompetent at this kind of work.

Wittgenstein now asks: 'Would it be a falsification of what was actually going on if [the worker] were to describe it precisely and say something like: "Then I thought: No, that won't do, I must try to do it another way" and so on—although he had neither spoken nor had these words been going through his mind?' And, if in this way he 'later repeated his wordless thoughts in words', would we, who actually saw him at work, be inclined to agree with his account, particularly if we had often watched him working, and not just once?

These clearly rhetorical questions anticipate the conclusion explicitly drawn by Wittgenstein in the next remark:

Of course we cannot separate his 'thinking' from his activity. Thinking is not in any way an accompaniment of working; any more than it is of speaking with thought. (*RPPII* §184)

Just as 'thinking in words' cannot be factored out into two separate but concurrent activities, thinking *and* speaking, so 'thinking while working' or 'not working thoughtlessly'<sup>47</sup> cannot be similarly factored out into two

46 To stay close to Wittgenstein's own examples, I have only mentioned cases where both the action itself and its point centrally involve some *physical* activity on the agent's part (e.g., composing a poem or constructing a philosophical argument would not be cases of this kind).

47 I take these two expressions to be roughly equivalent in what they convey.

independent activities of thinking *and* working. In both cases the thinking involved has to be understood ‘adverbially’. We normally speak and act ‘not thoughtlessly’, or (it might be more appropriate to say in some cases) ‘with thought’, but neither in one type of case nor in the other does it make sense to speak of thinking as a separate activity or process.

**II.8.** This is not to say, however, that the same verdict holds for perfectly ordinary cases where we speak of thinking as a mental activity: they extend from humdrum thinking about everyday matters to concentrated reflection on definite problems, of a theoretical or practical kind, and the normal use of ‘I am thinking of/about...’ relates to the entire range of such cases. Wittgenstein imagines a case where we might want ‘to distinguish between two chimpanzees with respect to the way in which they work, and say of the one that he is thinking and of the other that he is not’ (RPPII §229), on the same sort of ground we are familiar with from the discussion of his central example. But his following remark clearly shows that the ‘adverbial’ account of thinking can only take us so far:

But here of course we would not have the full use of ‘to think’. The word would relate to a mode of behaviour. The meaning of mental activity is first acquired through its particular use in the first person. (RPPII §230)

This judgement is confirmed, as we saw, by the applicability of the imperative to verbs of thinking. If I can tell someone ‘Think of what we are going to do tomorrow’ or ‘Think of A as he was in his prime’, there would seem to be nothing incoherent in the idea of thinking as a mental activity, just as there is nothing incoherent in the notion that we are able to see at will now one now another aspect of an ambiguous figure or to form at will a mental image. Accepting that, however, should not be construed as accepting any *detailed* parallel between thinking (when it is a mental activity) and physical activities of this or that kind as to structure, mode of operation, precisely delimited phases, etc.: a moment’s reflection will show that such detailed parallels hardly make sense.

If this *caveat* is observed, it seems to me, though I cannot argue the case here, that a properly circumscribed notion of thinking as a mental activity, with a field of application delimited so as to exclude cases that clearly require an ‘adverbial’ treatment, is neither problematic in itself nor problematic for Wittgenstein, at least if we go by what he says in the *Investigations* and the *Remarks*. Commentators who see the later Wittgenstein as sceptical about any idea of thinking as a mental activity, or at least as tempted to such scepticism (e.g., Hacker 1990, 147–155; Schroeder 1995), tend to forget that his denials in the *Investigations* and the *Remarks* that thinking is an activity or process are always made in a particular context: that of arguing against the idea that thinking is a regular accompaniment of meaningful speech or intelligent

behaviour. There is no suggestion in such passages that the denials should be extended to other cases of thinking, those that would be reported by 'I am thinking of/about...'<sup>48</sup> nor would such extensions be at all plausible given the grounds on which the denials themselves have been made.

**II.9.** Unlike the long discussion of thinking, of which I could only bring out the main features, and even these in the barest outline,<sup>49</sup> Wittgenstein's remarks on intention are brief and programmatic. They are also mostly negative:

Intent, intention, is neither an emotion, a mood, nor a sensation or image. It is not a state of consciousness. It does not have genuine duration. Intention can be called a mental disposition.

[...]

'I intend' is not an expression of an experience.

[...]

However, one might very well call the *decision* with which an intention frequently begins an experience.

Is decision a thought? It can be the end of a chain of thought.  
(*RPPII* §§178–180)

Wittgenstein makes some points on linguistic intentions that parallel those made about thinking and speaking (e.g., *RPPII* §274 presents a version of the same argument familiar from *RPPII* §266). There are also some exploratory observations on how our present concept of intention might be extended in different directions (*RPPI* §§594, 598, 830). But he seems less inclined than elsewhere in the *Remarks* to offer any positive suggestions: it is almost as if he were marking the importance of the notion but reserving it for later extended treatment.

Perhaps the most interesting of Wittgenstein's remarks on intention here is *RPPI* §831. One might almost call it 'the puzzle of intention':

When I make my coffee, I intend to drink it. If I were making it without this intention—must some accompaniment of my action then be *lacking*? Does something go on during the normal doing of a thing, which characterizes it as a doing with this intention? But if someone were to ask me whether I intend to drink, and I replied 'Yes, of course'—would I be saying something about my present state?

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48 It is significant that Wittgenstein explicitly denies that 'I am thinking' is used, like 'I am in pain' or 'I am sad', as 'an expression (*Außerung*) of a mental state'. At most, he says, that might be true of 'I am thinking it over'. But by saying "'Leave me alone; I am thinking it over concerning...'" one of course does not mean "Leave me alone; I am behaving in such and such a way". Therefore "thinking" is not behaviour'. (*RPPII* §12).

49 I also had to leave out all considerations in favour of points of interpretation that may be found controversial.

The *Remarks* contain no suggestion how this puzzle might be resolved, but looking at it today it is difficult not to be reminded of G.E.M. Anscombe's *Intention* and its proposal that an intentional action is one 'to which a certain sense of the question "Why?" is given application, the sense [being] that in which the answer, if positive, gives a reason for acting' (Anscombe 1957, 9). Thus, to illustrate Anscombe's proposal in terms of Wittgenstein's example, if asked why I am making coffee, I may answer 'In order to have something to drink before going out'; the answer is sufficient to characterize my action as intentional (which intuitively we would all agree that it is), without throwing doubt on the negative points about intention rightly insisted on by Wittgenstein. I may then be asked again, 'But why have something to drink before going out?'; and answer that question in a way that makes it clear that there was no further intention in my acting as I did (e.g., I can say, with perfect truth, 'I don't know, I usually do'). But, in a different scenario, I might truly answer, 'In order to keep a promise to myself that I will stick to regular habits', and then there conceivably might be further questions and answers of the same kind (Anscombe 1957, 37–41). The additional puzzle how to characterize the notion of acting with a further intention is thus handled satisfactorily as well, by exploiting the same idea used to characterize the notion of intentional action itself; though the resulting 'adverbial' account of intentional action and acting with a further intention is of a very different type than the 'adverbial' account of thinking involved in meaningful speech or intelligent behaviour.<sup>50</sup>

**II.10.** I shall end with an important point that applies equally to thinking and intending. Behaviourism is a shallow philosophy of mind because it wants to limit our thinking and theorizing about mental life in a misplaced and unnecessary way. There *are* limits to intelligible talk about thinking and intending but they are given with the concepts of thinking and intending themselves. I cannot intend to do S unless I know or firmly believe that doing S is feasible for me at the time I propose to do it; and I cannot think that p unless I am capable of expressing the thought that p, and that entails possessing the relevant concepts and having in one's linguistic repertoire a sentence of some natural language that, in the given context, could be used to express 'p'. Wittgenstein clearly saw this, and it seems to me that it was one of the reasons why by the time of the *Investigations* he saw behaviourism as an irrelevance.<sup>51</sup> It is conceptual, *a priori* investigations that will reveal to us the

50 The affinities between Wittgenstein's observations on intention and Anscombe's characterization of intentional action are easier to recognize today than they were at the time the *Remarks* were first published in 1980: Anscombe's book was then read and discussed almost exclusively in the context of the debate on the explanation of action initiated by Davidson.

51 See *PI* §337 on intention and *RPPII* §214: 'Equally Ballard's testimony (in James) cannot convince one that it is possible to think without a language.' Ballard, also mentioned in the *Investigations*, was a deaf mute, who claimed that he was capable of complex

structure of our psychological concepts and thus also the limits of intelligible talk about the mind. But, to return to Wittgenstein's strangely effective way of contrasting two different approaches to philosophy,<sup>52</sup> we may be able to achieve this only on condition that we work piecemeal, as a person cutting an endless longitudinal strip not lengthwise into thinner sections but crosswise into finite cross strips.

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I hope I have managed to present a case for taking seriously Wittgenstein's 'treatment of psychological concepts' both within his *œuvre* and, at least by implication, in the current controversies about scientism in the philosophy of mind. It seems to me, in addition, that his account of psychological concepts has an important bearing on the perennial debates among Wittgenstein scholars about his conception of philosophy and its proper tasks. Hans-Johann Glock has recently argued, in a balanced survey of Wittgenstein's views on philosophy (Glock 2017), that there are 'three tensions in [his] account of conceptual elucidation': '(i) treating it as a kind of (psycho-) therapy or propaganda for a particular point of view vs. regarding it as a type of dialectic argument; (ii) insisting on it having a purely critical purpose in dissolving philosophical puzzles vs. allowing for a more positive project of conceptual self-understanding; (iii) rejecting systematic theories vs. envisaging systematic surveys of our conceptual scheme' (Glock 2017, 231). Glock urges, and I agree, that these tensions 'should be resolved in favour of the second members of these pairs of alternatives' (Glock 2017, 231). But, if I am right, the Wittgenstein who left us his unfinished 'treatment of psychological concepts' would have agreed with him as well. His account of psychological concepts, as I have tried to show, is (i) largely based on dialectical argument against opposing views; (ii) various philosophical misconceptions cleared away by his discussion are almost a by-product of his attempt to characterize without distortion the relevant concepts; and (iii) if not exactly systematic in the usual sense of the word, his attempted *Übersicht* of our psychological concepts does aim at an account where characterizing properly any important concept 'throws light on the correct treatment of *all*' (*RPPII* §311). I also agree with Glock that Wittgenstein would have welcomed a description of his work as aiming at conceptual self-understanding. If I am not mistaken, that is very much an implication that Wittgenstein himself wanted us to attach to his striking picture of philosophical work being properly concerned with limited cross-strips rather than with endless longitudinal strips—a picture, I have argued, that fits almost perfectly his account of our psychological concepts.

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thoughts about God and the world 'some two or three years before my initiation into the rudiments of written language' (*PI* §342).

52 See above, I.5.



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## ON SOME STANDARD OBJECTIONS TO MATHEMATICAL CONVENTIONALISM

**Abstract.** *According to Wittgenstein, mathematical propositions are rules of grammar, that is, conventions, or implications of conventions. So his position can be regarded as a form of conventionalism. However, mathematical conventionalism is widely thought to be untenable due to objections presented by Quine, Dummett and Crispin Wright. It has also been argued that only an implausibly radical form of conventionalism could withstand the critical implications of Wittgenstein's rule-following considerations. In this article I discuss those objections to conventionalism and argue that none of them is convincing.*

According to Wittgenstein, mathematical propositions are rules of grammar, that is, it would appear, conventions (PG 190, AWL 156–7, BT 196, RFM 199a), or at least determined by conventions (see Schroeder 2014). A mathematical proposition doesn't describe a fact (RFM 356ef), but serves as a linguistic convention: 'only supposed to supply a framework for a description' (RFM 356f), determining the correct use of language (RFM 165h, 196f): what in a certain area of discourse makes sense and what doesn't (RFM 164bc). So Wittgenstein's position (which he held from the early 1930s to the end of his life) can be labelled as a form of conventionalism.

Perhaps the best-known presentation of conventionalism in the philosophy of mathematics is due to the Logical Positivists, in particular A.J. Ayer, who defended the view that all mathematical truths are analytic (1936). That is to say, they can be derived from a set of conventions defining the meanings of our mathematical symbols. For instance, the conventional definition of the series of natural numbers in terms of addition of 1 (each number  $> 1$  being defined as its predecessor + 1) logically implies any correct equation of the form  $a + b = c$ . Thus, an equation such as ' $7 + 5 = 12$ ' can easily be proven by a succession of definitional substitutions. (In this, of course, Ayer contradicted Kant's construal of such an equation as synthetic *a priori*.)

However, mathematical conventionalism has encountered some strong opposition. W.v.O. Quine and Michael Dummett objected that conventionalism is either circular or cannot account for the logical implications of conventions. Crispin Wright tried to show that conventionalism falls

foul of an infinite regress. It has also been argued that only an implausibly radical form of conventionalism could withstand the critical implications of Wittgenstein's rule-following considerations. I shall discuss those four objections to conventionalism in turn:

- (i) Quine's circularity objection;
- (ii) Dummett's objection that conventionalism cannot explain logical inferences;
- (iii) Crispin Wright's infinite regress objection;
- (iv) The objection to 'moderate conventionalism' from scepticism about rule-following.

*(i) Quine's circularity objection*

To begin with, I shall consider Quine's critical discussion of conventionalism in his paper 'Truth by Convention' (1936).

Quine proposes to explain the truth of an analytic statement, such as:

- (1) A bachelor is an unmarried man.

as follows: Since the word 'bachelor' is defined to mean 'unmarried man', (1) is equivalent to:

- (2) An unmarried man is an unmarried man.

And that is a truth of logic (Quine 1936, 323).

However, that is not a very plausible account of analyticity, as it regards language from the artificial, not to say warped, perspective of formal logic. Logicians may see nothing unnatural in a formula of the form ' $A = A$ ', or  $\forall x (f(x) \rightarrow f(x))$ , but (2) is not at all an ordinary English sentence. Figures of speech apart (e.g. 'War is war'), we have no use for such a reduplication of predicates; it is vacuous or, in the terminology of the *Tractatus*, senseless [*sinnlos*]. Saying that a predicate applies to things to which it applies is comparable to lifting up a chess piece and emphatically putting it down again on the same square. That is not a move in the game, and similarly, one could well imagine that in our natural language we *might* shrug off sentences such as (2) as ungrammatical. Just as we teach our children that a grammatical sentence must have subject and predicate, we might well make it another learners' grammar rule that subject and predicate must be different (cf.: 'a chess piece must be moved to *another* square'). Expressions of the form ' $A = A$ ' may of course be used in poetry ('A rose is a rose is a rose') or for rhetorical effects, but just like 'Bachelors, oh, bachelors!' they don't count as declarative sentences, so the question of truth or falsity doesn't arise.

To be sure, we don't as a matter of fact dismiss sentences such as (2) as ungrammatical, but the fact remains that we don't use them, because, in a natural sense of the word, they don't *say* anything: they are empty and

pointless. It is a psychological matter that when forced to call them either 'true' or 'false', we find it more natural to call them 'true', but as far as the actual workings of our language are concerned, we might just as well call them 'nonsense' (cf. *PI* §252). Hence, for Quine to explain the truth or correctness of an ordinary analytic sentence such as (1) as based on the alleged truth of such a linguistic anomaly as (2) is rather perverse.

A much more natural and plausible explanation of the truth of

(1) A bachelor is an unmarried man.

is to say that it is based on, and an expression of, a semantic norm or convention, namely (Def): that the word 'bachelor' is correctly applied to unmarried men (and nothing else).

It is not an effective objection to the more natural view of analyticity (as due to semantic norms, or the meanings of the words involved) to protest that the existence of such linguistic norms is a contingent matter, whereas analytic truths are supposed to be necessary. This objection rests on a confusion of the internal and the external perspective on a rule-governed activity (cf. Hart 1961, 86–7). The rules of chess, for example, are regarded from an internal point of view as fixed and non-negotiable when one is playing chess. That in a certain game the bishop moved from c1 to f4 is a contingent matter; a different move with the bishop or another piece might have been made instead. But that the bishop was not moved from c1 to c2 is *not* a contingent matter, for such a move is illegal. *Within chess* it is a necessary truth that bishops can move only diagonally, for such are the rules of the game. Again, in a certain position a mate in three moves can be *forced*. Chess problems are based on the *necessity* that is produced by the rules treated as fixed and unchangeable: In response to White's move, Black *must* move and he *can only* move in such and such a way. That is a necessary truth in chess, obviously due to nothing but the rules, which from the internal point of view of chess players are absolutely binding. And yet, of course, there is also an external point of view from which one can describe the origin and development of the game. Here, from a historical or sociological point of view, the same rules are just contingent conventions, which have changed in the past and may change again, should we at some point decide to play a different version of the game of chess instead. Similarly, we can adopt an external perspective on linguistic meanings: considering their origins and changes over time. But that in no way detracts from their normative force when, taking up an internal perspective, we accept and apply them as they are. While a game is being played and the rules accepted, those rules create necessity, i.e. the *must* and *must not* of valid norms.<sup>1</sup>

Having missed the most plausible construal of analytic truths, Quine suggests that 'truth by convention' cannot be due to definitions, as they are only conventions of notational abbreviation (Quine 1936, 322), available to

1 For a more detailed discussion of analyticity, see Schroeder 2009.

transform truths, but not to found them. Rather, we must look for another sort of convention, namely postulates (331), ‘assigning truth’ to a certain kind of statement (334). He then proceeds to set up logic axiomatically, presenting three postulates or axioms that suffice for developing the propositional calculus (one of them corresponding to the inference rule of *modus ponens*: licensing the assignment of truth to any ‘ $q$ ’ given the truth of ‘ $p \rightarrow q$ ’ and ‘ $p$ ’), and hinting at four more to cover the predicate calculus as well. Finally, he presents the following problem:

Each of these conventions is general, announcing the truth of every one of an infinity of statements conforming to a certain description; derivation of the truth of any specific statement from the general convention thus requires a logical inference, and this involves us in an infinite regress. [Quine 1936, 342]

In a word, the difficulty is that if logic is to proceed *mediately* from conventions, logic is needed for inferring logic from the conventions. Alternatively, the difficulty which appears thus as a self-presupposition of doctrine can be framed as turning upon a self-presupposition of primitives. It is supposed that the *if*-idiom, the *not*-idiom, and so on, mean nothing to us initially, and that we adopt the conventions (I)–(VII) by way of circumscribing their meaning; and the difficulty is that communication of (I)–(VII) themselves depends upon free use of those very idioms which we are attempting to circumscribe, and can succeed only if we are already conversant with the idioms. [Quine 1936, 343]

If instead of an axiomatic system we use truth tables to present the propositional calculus (as Wittgenstein did in the *Tractatus*), we can explain the *if*-idiom by the following diagram:

$p$	$q$	$p \rightarrow q$
T	T	T
T	F	F
F	T	T
F	F	T

The diagram is to be taken to mean that *if* ‘ $p$ ’ is true and ‘ $q$ ’ is true then ‘ $p \rightarrow q$ ’ is true, *if* ‘ $p$ ’ is true and ‘ $q$ ’ is false then ‘ $p \rightarrow q$ ’ is false, etc. Thus, in explaining the *if*-idiom, symbolised by the arrow, we already use the *if*-idiom. That is the infinite regress, or circularity, Quine is concerned about: we cannot explain, and thus set up, logic (logical concepts) without already using logic (logical concepts). One could also put it, more generally, like this: Every use of language involves logic, yet one cannot explain logic without language. In short, one cannot explain logic (or language) without already using logic (or language).



The point is a familiar one: one cannot learn one's mother tongue with dictionary and grammar book: through definitions and lists of grammatical rules. Children acquire their first language by imitation and practice, instead. And they are certainly not told during the first stages of learning that the sounds and meanings of our words are conventional. They learn that the colour of grass is called 'green' long before realizing that there are different names for it in other languages and that it could have been different in ours. Does that mean that linguistic meaning and grammar are not in fact conventional? Certainly not.

Towards the end of his article Quine comes close to acknowledging as much, considering that 'it may be held that we can adopt conventions through behaviour, without first announcing them in words; and that we can return and formulate our conventions verbally afterwards, if we choose, when a full language is at our disposal' (Quine 1936, 344). And although he concedes that 'this account accords well with what we actually do' (344), in the end it seems to him too vague and insubstantial:

We may wonder what one adds to the bare statement that the truths of logic and mathematics are *a priori*, or to the still barer behavioristic statement that they are firmly accepted, when he characterizes them as true by convention in such a sense. [Quine 1936, 344–5]

These questions are not so difficult to answer. That logic and mathematics are *a priori* means that we can verify their statements without recourse to experience. That is an epistemological observation in need of explanation: How can there be statements—apparently assertions about the way things are—whose truth does not depend on the way things are found to be in the world? A plausible explanation of the apriority of logical and mathematical propositions is that their truth is due solely to the conventional meanings of the words or symbols involved (rather than, say, to some alleged faculty of intuition). To the extent to which we are familiar with their meanings, then, we have no need for further experience in order to convince ourselves of the truth of such propositions.

It is certainly true that an account needs to be given of what it means to say that something is conventional when it was never explicitly introduced as such. The criterion for something being a convention is certainly not (as Quine suggests) that it is 'firmly accepted': Numerous empirical truths have been firmly accepted, without thereby becoming mere conventions, while on the other hand, the acceptance of a convention can be more or less firm: even while a convention is still in force people may be half-hearted about it, regularly considering alternatives.

In order to clarify the concept, consider as a clear example of a convention the use of the English word 'blue' (cf. Hart 1961, 54–6; Schroeder 1998, 41–50):

(i) There is far-reaching *agreement* among our linguistic community about the correct spelling, pronunciation, and application of this word.

(ii) Spelling, pronunciation and use of the word are, however, in a certain sense, *arbitrary*, i.e. not forced upon us by the facts of nature. A different sign with a different pronunciation would be just as serviceable, as illustrated by the equivalent words in other languages. What is more, we are not even compelled by nature to have a word with exactly that meaning. As is well known, the boundaries between different colours are conventional too, drawn differently in different languages. In Russian, for example, there is no equivalent for the English 'blue', but one word for 'dark blue' [синий] and another for 'light blue' [голубой].

(iii) The standard spelling, pronunciation and use of the word are consistently kept and conveyed to new members of the community. Deviations are corrected and those corrections are normally accepted. Significantly, such corrections are based only on the fact that a certain linguistic norm is actually in force; it is not required for an appropriate correction of a deviation that the norm in question be intrinsically justified. Thus, to be entitled to correct someone's spelling, pronunciation or use of the word 'blue' you only need to point out that it is not in agreement with common usage; you do *not* need to argue that it is a good thing for that English word to be spelt, pronounced or applied as it is. That is a crucial feature of the conventionality of a rule (as opposed to its functionality, for instance): the standard of correctness is constituted by social agreement, and therefore *criticisms of deviation need to refer only to that social agreement or acceptance*, regardless of whether what is thus socially accepted is intrinsically reasonable or better than possible alternatives.

If, according to those three criteria, linguistic meaning is conventional, so is logic. For logic is just an abstraction from linguistic meaning where it concerns the relations between the truth or falsity of sentences. In a broad sense of the term 'logic', it follows logically from the statement that Jones is a bachelor that Jones is unmarried. Taken in that broad sense, all word meanings are relevant to logic. In a narrower sense of the term, logic is concerned with relations between the truth or falsity of statements that depend only on certain structural words, such as 'not', 'and', 'or', 'if', or 'all', together obviously with the terms used to explain the logical features of such connectives, namely: 'true', 'false', 'proposition', 'implies' etc. Either way, insofar as word meaning is conventional, so is logic, which merely reflects certain semantic aspects of our language. Using words with certain meanings *ipso facto* involves using logic. For any substantive change in inferences we draw and accept is a change in meaning. (For example, if ' $p \vee q$ ' is taken to imply ' $p$ ', then ' $\vee$ ' cannot mean the same as our 'or'.)

One may object that since what is conventional could be otherwise, logic cannot be conventional: for after all, one cannot think illogically. — The first

reply is that, of course, logic could be otherwise. It is a matter of logic that ' $p \& q$ ' implies ' $p$ '; but we could easily introduce a rule forbidding this inference. Obviously, such a rule would change the meaning of ' $p \& q$ '. 'Logical' means: in accordance with meaning. That one cannot think illogically—that one cannot go against meaning (on pain of producing nonsense), doesn't show that meanings cannot change, and with them our logical inferences. — Against this one may want to say that, of course, words could have different meanings; but given their current meanings, their implications couldn't be different. That, it would appear, is 'the hardness of the logical must' (*PI* §437), much firmer than mere convention! — However, the implications just *are* an integral part of the meanings. So what the revised objection boils down to is this: *Holding on to the words' current meanings*, their meanings couldn't be different. And that's not saying anything.

(ii) *Dummett's objection that conventionalism cannot explain logical inferences*

Michael Dummett, in his influential review of the first edition of Wittgenstein's *Remarks on the Foundations of Mathematics*, presents another, though related, criticism<sup>2</sup> of the logical positivist account of mathematics. 'Modified conventionalism' is Dummett's label for the logical positivist view that only some necessary truths are 'straightforwardly registers of conventions we have laid down; others are more or less remote *consequences* of conventions' (Dummett 1959, 494). Dummett objects:

This account is entirely superficial and throws away all the advantages of conventionalism, since it leaves unexplained the status of the assertion that certain conventions have certain consequences. [Dummett 1959, 494]

More recently, Dummett's objection has been urged by Michael Wrigley:

The more usual form of conventionalism, associated with Logical Positivism, held that certain basic necessary truths owed their necessity purely to our having an explicit convention to that effect, and that all other necessary truths were consequences of these basic conventions. This theory of necessity is immediately attractive because it removes the epistemological mystery from necessary truth. Its crucial flaw, however, is its inability to explain this notion of consequence. The fact that such-and-such basic conventions have such-and-such consequences is a necessary truth but it cannot be a basic convention. What then is the source of its necessity? [Wrigley 1980, 349–50]

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2 Perhaps Dummett's criticism was inspired by Quine's remark, quoted above, that: 'logic is needed for inferring logic from the conventions.'

However, it is difficult to see the force of this objection. The picture seems to be something like this: We stipulate a set of axioms, say, the nine axioms of Frege's *Begriffsschrift*:

1.  $\vdash A \rightarrow (B \rightarrow A)$
2.  $\vdash [A \rightarrow (B \rightarrow C)] \rightarrow [(A \rightarrow B) \rightarrow (A \rightarrow C)]$
3.  $\vdash [D \rightarrow (B \rightarrow A)] \rightarrow [B \rightarrow (D \rightarrow A)]$
4.  $\vdash (B \rightarrow A) \rightarrow (\sim A \rightarrow \sim B)$
5.  $\vdash \sim\sim A \rightarrow A$
6.  $\vdash A \rightarrow \sim\sim A$
7.  $\vdash (c = d) \rightarrow (f(c) \rightarrow f(d))$
8.  $\vdash c = c$
9.  $\vdash \forall a f(a) \rightarrow f(c)$

How then do we get from those axioms to any other logical truth, not among them, for instance:

$$(c1) \quad \forall x(f(x) \rightarrow g(x)) \rightarrow (g(a) \vee \sim f(a))$$

Presumably, (c1) is a consequence of the axioms, but how it follows from them hasn't been explained.

Something like that would appear to be the picture behind Dummett's complaint—but it can be quickly dismissed by simply completing the account of Frege's calculus. For those nine axioms are not the only conventions in *Begriffsschrift*. There are also three derivation rules (viz. Generalisation, *Modus ponens*, and a substitution rule), which provide a formal explanation of what in this calculus is to count as a 'consequence' of a given formula, and by means of which it is very easy to derive (c1).

That is the obvious answer to Dummett's criticism: Conventions need not take the form of axiomatic statements, they can also be procedural rules, in particular: inference rules, to make explicit the idea of a logical consequence (cf. Bennett 1961). Hence, in the case of an axiomatic system, the idea that a conventionalist, such as Ayer, would lack the resources 'to explain the notion of consequence' is quite groundless.

What about necessary truth in natural languages? As explained above, logical and analytic truths are due to the meanings of words. For example, it characterises the meaning of the word 'if' that a statement of the form ' $p$ , and if  $p$  then  $q$ ' implies ' $q$ '. If we did not acknowledge this consequence we would *ipso facto* have given a different meaning to the word 'if'. To the extent to which the meanings of words have been fixed, the logical consequences of statements made up of those words have been fixed too. Any unclarity about the logical implications of a statement is an unclarity about the statement's meaning. So on closer inspection, Dummett's worry is just inconsistent. The idea that we might understand a set of explicit linguistic conventions (and hence the vocabulary from which those conventions are formulated

and which they partly explain), without yet understanding, or being able to work out, how other things follow from those conventions (and are thus also conventionally determined), doesn't make any sense.

In a word, Dummett's mistake is to think of logic as something on top of meaning.<sup>3</sup> The philosophical picture here is that you can understand the meanings of all the words and statements—and yet not know what logical relations obtain between those statements. Then of course those logical relations, as something separate from meaning, begin to look rather mysteriously 'unexplained'. It is indeed hard to understand what could be the source of such a free-floating, ethereal mechanism of necessity.

(iii) *Crispin Wright's infinite regress objection*

Something like, or broadly in agreement with, our response to Quine and Dummett in the preceding sections was already proposed by Jonathan Bennett (1961), trying to show how conventionalism can also explain the notion of logical consequence. Crispin Wright, however, discusses and rejects this reply as unsatisfactory, claiming that it falls foul of an infinite regress, which can be presented as follows:

- (1) On the view under discussion ('modified conventionalism'), all necessary truths are *either* conventions *or* their implications.
- (2) Suppose a set of conventions *C* implies a statement *Q*.
- (3) Now, what is the status of this second-order statement [i] '*C* implies *Q*'?
- (4) Expressing a conceptual truth, (i) must be a necessary truth too.
- (5) Hence, according to the view under discussion, it must be *either* an explicit convention *or* an implication of conventions.
- (6) As it's not an explicit convention, it must be an implication of conventions.
- (7) But the only conventions on which the truth of (i) depends are the set *C*.<sup>4</sup>
- (8) Hence, [ii] '*C* implies "*C* implies *Q*".
- (9) But (ii) must be a necessary truth, too.
- (10) And not being a convention itself, (ii) must be the implication of conventions.
- (11) And again, the only relevant conventions are the set *C*.
- (12) Hence, [iii] '*C* implies "*C* implies '*C* implies *Q*'".

And so on, *ad infinitum* (Wright 1980, 347–50).

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3 The same mistake was committed more recently by T. Williamson (2006, 13–14).

4 Let us assume that *C* also contains conventions governing the use of the word 'imply'.

Wright then argues that this infinite regress provides a fatal objection to the standard ('modified') conventionalist view:

The model thus appears to require that in order to recognise the status of any consequence of initial logical consequence conventions, we have to recognise the same of infinitely many statements. [Wright 1980, 351]

In other words: Wright claims that, according to 'modified conventionalism', in order to understand that *Q* is implied by a set of conventions *C*, we'd have to understand first that '*Q* is implied by *C*' is itself implied by *C*. And in order to understand that, we'd have to understand first that "'*Q* is implied by *C*' is implied by *C*' is implied by *C*, and so on and so forth. Hence, in order to understand any inference from a given set of conventions, we'd have to understand an infinity of inferences—which is impossible.

However, that conclusion does not follow. The infinite regress line (1–12) shows how a derived necessary statement allows the construction of a higher-order necessary statement, for which in turn we can construct a higher-order necessary statement, and so on and so forth. But that does not mean that we *have* to embark on this endless series of constructions. Indeed, it's not even clear that in order to be aware of a given statement's derived necessity we have to be aware of the *possibility* of endlessly constructing meta-statements in this way.

Consider the following analogous argument:

Suppose *S* is an English sentence. In order to understand the linguistic meaning of *S* we have to recognise that:

(i) *S* is an English sentence.

But (i) is itself an English sentence. In order to understand the linguistic meaning of (i) we have to recognise that:

(ii) (i) is an English sentence.

And so on indefinitely.

However, in order to understand that *S*—say 'It's raining'—is an English sentence, you *don't* have to recognise that "'It's raining" is an English sentence' is itself an English sentence. There is no need to consider that sentence at all. After all, your understanding of 'It's raining' need not even be formulated in a sentence.

Or again: if a statement *S* is true, then '*S* is true' is itself true. And so is: "'*S* is true" is true', and so forth. You *can* consider, and convince yourself of, the endless possibility of iterating the truth predicate; but you don't have to. You can simply convince yourself that a given statement—'It's raining'—is true (say, by looking out of the window), without considering any such possible iterations.

Like the 'truth'-predicate, the predicate 'is analytic' can always be applied to result of its applications (provided the initial sentence is quoted and not just referred to by a label or an incidental description). "A bachelor is an unmarried man" is analytic' is itself analytic. Again, we can continue the series, but we don't have to.

Similarly, if we present analytic truths as consequences of a set of all semantic conventions (as in Wright's argument), we can easily convince ourselves that this set entails not only a given analytic truth, but also that statement of entailment itself, and so on and so forth. But so what? It does not follow, as Wright seems to think, that, on the moderate conventionalist view, understanding the initial statement (say, that *S* is analytic) would require that we run through the whole series of iterations: accomplishing 'infinitely many such feats of recognition' (Wright 1980, 351). Indeed, we need not even *consider* the possibility of such endless iterations.

To recapitulate: None of the objections to (moderate) conventionalism considered so far are convincing. Quine is concerned that explicit statements of linguistic conventions presuppose the use of linguistic conventions, but he half admits himself that conventions need not originate with explicit formulations. Dummett complains that moderate conventionalism leaves unexplained how certain conventions can have certain consequences, but with respect to formal systems that is patently mistaken since the concept of a logical consequence is explained by conventional rules of inference, and with respect to ordinary language it is inconsistent since the understanding of logical implication is simply an aspect of the understanding of linguistic meaning: you cannot have the latter without the former. Finally, Wright argues that statements of logical inference imply an infinite series of meta-statements which, *per impossibile*, one would have to recognise in order to understand the initial inference, but, as explained, that is a *non sequitur*: the possibility of endlessly constructing such meta-statements does not establish the necessity to do so.

(iv) *The objection to 'moderate conventionalism' from scepticism about rule-following*

However, Dummett and Wright believe that there is yet another, more radical and devastating objection to moderate conventionalism, namely Wittgenstein's rule-following considerations. On their reading (largely in agreement with Saul Kripke's (1982)), Wittgenstein has presented a sceptical problem with the very notion of conventional semantic rules. On this view, Wittgenstein argues that it is never 'determined in advance' whether a certain concept applies in a given case, or what is to be the result of a calculation (Wright 1980, 22). That means (according to this reading of Wittgenstein) that it is never determined in advance what is to count as a consequence of



a given set of conventions. Therefore, they argue, Wittgenstein could not accept ‘moderate conventionalism’, but had to go for ‘full-blooded’ or ‘radical conventionalism’, the view that:

the logical necessity of any statement is always the *direct* expression of a linguistic convention. That a given statement is necessary consists always in our having expressly decided to treat that very statement as unassailable; it cannot rest on our having adopted certain other conventions which are found to involve our treating it so. This account is applied alike to deep theorems and to elementary computations. [Dummett 1959, 495]

Thus for every new calculation or inference, ‘we are free to choose to accept or reject’ it (Dummett 1959, 495), provided we all agree on our choice: For right is simply what the community accepts (Wright 1980, 226).

As a response to Wittgenstein’s rule-following problem the community view is a complete failure. For if it cannot be fixed in advance what in a given case is a correct application of the concept ‘+ 2’, then it is equally impossible to fix in advance what in a given case is to count as ‘community agreement’ (*RFM* 392c). Both are on exactly the same footing as instances of Wittgenstein’s problem: How can a *general* concept determine its *particular* applications?

For another thing, in an account of mathematics, the distinction between conventions and their implications (‘moderate conventionalism’), far from being a weakness or an embarrassment, is definitely what we want (cf. *RFM* 228f; *PR* 248g). For the alternative, the view that all mathematical propositions are conventions is evidently *empirically false*: in conflict with the facts of mathematical practice. As noted above, the mark of conventionality is that the standard of correctness is constituted by social agreement, and that therefore criticisms of deviation need to refer only to that social agreement or acceptance. That is true of basic definitions in arithmetic. How can you justify your insistence that the successor natural number after 6 is 7? Well, that is simply what has been conventionally agreed: what you’ve been told by teachers and what you find in all the books. But things are very different with the claim that  $7,957 \times 23,249 = 184,992,293$ . The reason I can give for insisting on this equation is not that this just is what everybody accepts—I haven’t encountered any acceptance of this sum yet, neither by teachers, nor in books, nor by anybody else; rather, my reason for accepting it is that (I convinced myself that) it is what one gets if one carries out a certain kind of procedure for long multiplications. (And note that, pace Wittgenstein’s metaphor (*RFM* 165), taken up by Dummett (1959, 496), there is as a matter of fact no ‘putting in the archives’ of such new sums either: my accepting that sum *now* will not be invoked by future mathematicians in order to justify *their* acceptance of it afterwards. They will never know of my calculations, and even if they did, the fact that I believe this to be the right result will carry no normative force against the standard procedural criteria.) Empirically speaking, there is no

social agreement on this particular sum, there is social agreement only on the general principles of multiplication. Hence it is not the particular sum that is treated as a convention, but the rules of multiplication. 'Full-blooded conventionalism', refusing to acknowledge the distinction between definitions and calculations, just doesn't agree with our mathematical practice.

Moreover, the idea of 'full-blooded conventionalism' is not only 'hard to swallow' (as Dummett complains), and empirically false, but sheer *nonsense*. Dummett seems to think, like Quine, that conventionality might simply be a matter of firm acceptance of a given statement, treating it as 'unassailable', so that if we decided to hold a given statement as true come what may we would thereby turn it into a convention. Not so.

To begin with, a particular statement is not a convention, however stubbornly one may hold on to its truth. A convention is an agreement what to do (not just what to believe) under certain *repeatable* circumstances, in a certain *kind* of situation, not just on one occasion. Hence a referendum, a one-off decision, is not a convention. Thus we have conventions about how to calculate sums, any sums, i.e. conventions about the use of the addition sign, the multiplication sign, etc. Of course it is conceivable that instead of having the whole system of elementary arithmetic we might only use a few individual formulae, such as ' $5 + 7 = 12$ '. In other words, the use of the sign '+' might be limited to only a few combinations of numbers. The reason why even in isolation such a single sum could be a convention is that it is general in its application: it is to be used again and again for calculation the overall number of five objects together with seven other objects.

And here already the rule-following considerations come in: For there is a jump from the general formula to its application on a given occasion. (How do I know that '7' doesn't mean '8' on a Sunday? How do I know that wooden objects are to be counted in the same way as metal objects?) Indeed even the mere reproduction of the same formula is a case of rule-following: Having agreed to the equation *now* does not force me to agree to it tomorrow. (Having agreed to 'Today is Sunday' today, I shall reject it tomorrow.) In other words, coming up with a new token of the formula tomorrow because we agreed to one today, is also an inference (cf. *PI* §214).

*Generality is essential to the very concept of a convention.* Any convention requires applications to countless particular cases, i.e. inferences to what to do on a particular occasion. Deciding from case to case, as envisaged by Dummett, simply means *not having conventions*. Hence Dummett's idea of conventionality without any inferences is a contradiction in terms.

It is important to note how wide the scope of Wittgenstein's rule-following considerations is. If, like Dummett, Kripke, and Wright, we took them to show that there could be no rule-governed inferences from the general to the particular, we would have to give up on conventions, most notably on linguistic conventions, and hence on general terms in any kind of statement or utterance. On that reading of the rule-following considerations,

there could be no concepts with an intension determining their extension. There could simply be no language!

Wittgenstein's famous rule-following argument (of *PI* §§198–201) is a *reductio ad absurdum*: If you insist on a certain philosophical account of rule-following, rule-following (and hence language) turns out to be impossible. So, clearly, that philosophical account of rule-following must be mistaken—'it can be seen that there is a misunderstanding here' (*PI* §201).<sup>5</sup> — Obviously, for such an argument to be understood, the absurdity that is presented as a provisional conclusion must be recognized as such. It is crucial that one sees just how devastating the implications of the view in question are—which is what Dummett and Wright failed to do. Dummett thought that it would undermine just a moderate type of conventionalism, whereas in fact it would do away with conventions, language and all. Wright, like Kripke, thought the damage could be patched up by invoking community agreement, not realising that the recognition of community agreement would itself have become impossible.

The philosophical prejudice that is shown by Wittgenstein to lead to absurdity is the view that for it to be determined that a concept *F* applies on a particular occasion *o* it must be *unmistakably and compellingly* laid down somewhere that *F* applies on *o*, and so for every possible application. We are particularly inclined to think that for meaning to be fixed in advance of particular applications, there must be something *in our heads* from which any particular application could be derived with logical necessity.<sup>6</sup> In the first sections of Part 1 of the *Remarks on the Foundations of Mathematics*, Wittgenstein makes it very clear that, of course, meaning *is* determined; only that determination must not be imagined to consist in some sort of infinitely explicit instruction manual in our heads. Meaning is use, and cannot be reduced to, or be based on, mental representation. In short, Wittgenstein's verdict that meaning is not determined *by mental representation in the head* (see e.g. *RFM* 409c), is turned by Dummett, Kripke, and Wright into the absurdly radical claim that meaning is not determined *full stop* (e.g. Wright 1980, 22), we can never be committed by any semantic convention (232), meanings are always to be freely chosen by us as we go along (Dummett 1959, 495–6).<sup>7</sup> It would appear that Dummett, Kripke, and Wright belong to the generation of analytical philosophers of whom Bede Rundle remarked that they no longer have a nose for nonsense; and of the latter two one can even say that they appear to have a taste for it (Rundle 1997, ix–x).

5 For a more detailed account of the dialectic of Wittgenstein's rule-following discussion, see Schroeder 2006, 185–201.

6 Wittgenstein also considers ostensive definitions (*PI* §§27–64) and Platonist ideas of a foundation of meaning (*PI* §§191–7), but most people today, like Kripke and Wright, seem to find the mentalistic line far more tempting.

7 Wittgenstein says exactly the opposite: 'When I follow a rule, I do not choose' (*PI* §219).

In conclusion, Quine's, Dummett's, and Wright's objections to conventionalism are unsuccessful, and the rule-following considerations do not provide any convincing objection to 'moderate conventionalism' (i.e., the only consistent form of conventionalism) either. It is an egregious misunderstanding to think that Wittgenstein tried to argue against the possibility of inferences from general statements to particular cases. And if his remarks were, perversely, interpreted in such a destructive way they would gainsay not only 'moderate conventionalism', but the very possibility of general concepts, that is, of language.<sup>8</sup>

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<sup>8</sup> I am grateful to Kai Büttner and an anonymous referee for their helpful comments on an earlier version of this paper.

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## PICTURES, MODELS, AND MEASURES<sup>1</sup>

**Abstract.** *In this paper, I enrich the context of Wittgenstein's Tractatus given over a decade ago in my book Wittgenstein Flies A Kite (and related earlier works dating from 2000). I've since located a sketch reprinted from a 1914 Paris magazine showing a lawyer using a model bus and dolls to depict a traffic accident; I present it here along with a discussion of the modelmaker movement of that time. The modelmaker movement was a movement at the intersection of popular culture and technical expertise that really needs to be understood and recognized in discussing Wittgenstein's use of Modell and Bild. I discuss its role in relation to experimental models used in scientific research. Other new aspects presented here include: the very special role of model-flying clubs (known in Germany as Modell-Flugverein); the use of scientific forensics in courts of law, really just beginning then (c. 1914), and a part of popular culture as well; the significance of more recent work by others on Boltzmann's personal interest in flight, and on the widespread but now-forgotten discussion of dimensional analysis in the history of physics. I conclude that all these lend support to the views on the Tractatus I laid out in my book, and summarize and elaborate on some of them here, inasmuch as space permits. More generally, I argue that the philosophical community interested in interpreting Wittgenstein's early works stands to gain from becoming better acquainted with the scientific and technological developments of the milieu in which they were conceived.*

### Introduction

The *Tractatus* was completed almost one hundred years ago. That is recent enough that readers tend to feel comfortable taking the terminology of pictures, models, and yardsticks to have the connotations familiar to us today. Many commentators rely on their own familiarity with the terminology of pictures, models and yardsticks when discussing the text. This is likely attributable to lack of better options: Wittgenstein directed that all his books and papers were to be disposed of when he left Cambridge, so there is little to go on from that early period, in terms of his personal effects. Another shortcoming in historical sources commonly consulted by academics writing on early 20th century analytic philosophy is that history of science and technology has not been as integrated into philosophy as, say, history of logic

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1 This paper is based on the paper of the same title presented at the 2015 Pacific APA Meeting, Vancouver, BC April 1–4, 2015 in the *Invited Symposium: 'Wittgenstein's 'Picture Theory''* 1 pm Friday, April 3rd.

and literature has. Though lack of his personal effects may be the reason for looking to Wittgenstein's milieu for the contextual cues in reading his works, in general I think there is something of value to be gained in looking at the context specific to an author at the time they wrote a text, anyway. The availability of materials following the massive digital archiving of magazines, newspapers, and journals that has occurred in the last two decades now makes it possible to bring things into discussion that were not as convenient to locate a decade or two ago.

My hope in this paper is to enrich discussion about pictures, models and measures in the *Tractatus* by providing context about technology and science in the life of the author of the *Tractatus* (e.g., circa 1889–1919). Situating his remarks and works in that landscape should yield a more complete account of what was being said, and thus aid in sorting out some puzzling passages and themes.

## Situating This Paper

There have of course already been some works that consider the contribution that research in intellectual history might add to understanding the *Tractatus*, and some of these tend towards the scientific and technical. McGuinness researched Wittgenstein's years studying engineering: at the Technische Hochschule (THS) in Charlottenberg near Berlin, at the Kite-Flying Station in Glossop near Manchester, and at what is now the University of Manchester, where he was enrolled as a research student in aeronautical engineering. McGuinness identified the courses in Descriptive Geometry and Graphical Statics taught at the THS as important to Wittgenstein's idea of the proposition as picture. (McGuinness 1988/1995, p. 61) Janik & Toulmin (1996) explore overarching intellectual movements in Vienna, including art and music<sup>2</sup> What my contribution here provides in terms of historical context is somewhat more specific to the interests and situation of the author at the time in his life when he wrote the *Tractatus*, but it is in the same spirit of providing context for that work. I believe the work presented here pulls the curtain on something that was ubiquitous in science and technology at the time, but has since disappeared from view—certainly from the view of most philosophers and philosophers of science today: the language of dimensions,

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2 Hamilton's 'Wittgenstein and the Mind's Eye' in Klagge, James C. (2001) *Wittgenstein: Biography and Philosophy*, Cambridge University Press discusses Wittgenstein's time at the Technische Hochschule in Charlottenberg and so is another such contribution. Hamilton (2001) emphasizes the use of visualization in engineering, and does not mention wind tunnels or experimental scale models. Hamilton (2001) puts a great deal of emphasis on the significance of the coursework at the THS in Descriptive Geometry, though fails to mention that Brian McGuinness had a decade earlier made the claim that the notion of 'proposition as picture' owed much to reflection on Professor Jolles' classes in Descriptive Geometry and Graphical Statics. (McGuinness 1988, p. 61)



sometimes referred to as dimensional analysis or the theory of dimensions. There has been some recent work in philosophy on the history of the concept of dimensions in science, however, hopefully portending a resurgence of interest. (Mitchell 2017; de Clark 2016, 2017; Walter 1990) This element of Wittgenstein's milieu—dimensions (in the sense of dimensional analysis and dimensional equations) was often referred to as the language of science at that time (as opposed to the current tendency to confer that status on logic, set theory, model theory, or differential calculus). I first presented my own speculations on an interpretation of the *Tractatus* in which the puzzling account of objects in the *Tractatus* becomes clear when seen on analogy to dimensions, in a submission to HOPOS 2000 in Vienna in late 1999; it appeared the following July in the book of abstracts for the HOPOS 2000 program<sup>3</sup> I gave a short version of the paper at HOPOS 2000 and a longer

3 As the online archive of HOPOS conferences and workshops does not at present include the year 2000, the abstract of my talk at HOPOS 2000 is not available on the HOPOS website. Hence I provide it here:

“Physical Pictures: Models in Engineering Practice circa 1914 and in the *Tractatus*.”

In 1914, Wittgenstein recorded an incident in his Notebooks that he later mentioned to several friends as occasioning a major insight for his views in the *Tractatus* that propositions represent by being pictures. The entry reads: ‘In the proposition a world is as it were put together experimentally. (As when in the law-court in Paris a motor-car accident is represented by means of dolls, etc.)’ This incident, he said, was pivotal in coming to the view in the *Tractatus* that propositions represent by being pictures. In his later writings as well, investigations of what it is to understand a proposition remain tied to investigations of what it is to understand a picture.

Numerous scholars have looked to Hertz’ *Principles of Mechanics* as the element of Wittgenstein’s milieu from which he drew the notions of model and picture used in the *Tractatus*; that they have done so may be due to a brief parenthetical remark in a much later section of the *Tractatus*. However, I think that a far more relevant source of a notion of model in Wittgenstein’s milieu was the engineering scale model. The methodology of scale modeling is strikingly different from analytical methods, in just those ways that are important to the notion of picturing found in the *Tractatus*: the primary notion is that of translatability between two physical situations, rather than between a physical situation and a mathematical or linguistic representation, or, even, between two physically similar situations whose similarity is established by showing that they are both instantiations of the same more general equation or general description. The notion fits well with the remark: ‘The essential nature of the propositional sign becomes very clear when we think of it made up of spatial objects (such as tables, chairs, books) instead of written signs (3.1.4.3.1)’ It’s also significant that the methodology of scale modelling can be used when one has no theory by which the behavior of the model can be predicted, or, even, a theory of the phenomenon being investigated.

Since wind tunnels were already in use in Germany when Wittgenstein did his engineering studies there, the concept of scale model would actually have been in the milieu much earlier than the pivotal 1914 notebook entry. However, the methodology of scale modeling was then more a matter of engineering practice than it was a formal methodology. At the time Wittgenstein recorded the insight about a world being ‘put together experimentally’, the field was at a threshold as far as the formalization of its methodology; logical and mathematical foundations of the practice were just then beginning to be developed. It was in 1914 that Buckingham’s proof about the minimum number of dimensionless groups needed to identify physically similar situations was

version later that year titled: ‘Physical Pictures: Engineering Models circa 1914 and in Wittgenstein’s *Tractatus*.’ (Sterrett 2000) At the time I offered it as an original and unprecedented suggestion, somewhat speculative, resulting from many years of thinking about the methodology of scale models and the *Tractatus*. It was speculative in the sense that the interpretation of the text had come first; searching for historical evidence afterwards.

Subsequently, i.e., over the last twenty years, I have delved further into both the history and the philosophy of the concept of ‘physically similar systems’ and the theory of dimensions. (Sterrett 2006; Sterrett 2009; Sterrett 2017a; Sterrett (forthcoming a)]. I can say without reservation that all this further work made the suggestion seem far less speculative than when I initially presented it. The few unconnected historical bits that I had to go on when I first presented at HOPOS 2000 on the role of dimensional analysis and scale models in the scientific and technical milieu in which Wittgenstein conceived and wrote the *Tractatus*, were merely to establish the existence of the methodology of experimental scale models (physically similar systems) at the time, and show it was part of his world. This has since been supplemented to give a somewhat fuller account of the cultural ubiquity of other kinds of scale models, clarifying the role of experimental scale models among other kinds of scale models of that time, their especially tight connection to the history of flight in the year 1914, and indications that Wittgenstein not only would have been well placed to appreciate their role, but that he most likely did in fact have such an interest. In addition, some recent work on the history of dimensional analysis by others now makes it clear that Wittgenstein’s interest in physics (as opposed to engineering) during his youth was another possible source of knowledge of the theory of dimensions. (Mitchell 2017; de Clark 2016; 2017; Buchwald 1994, p. 200ff; Walter 1990, Ch. 4) Though my initial analogy between dimensions in science and objects in the *Tractatus* did not crucially depend on any particular historical claims, it turns out that all the above support the suggestion that the theory of dimensions and the notion of physically similar systems were relevant to Wittgenstein’s interests.

## Pictures and Models

While many have attributed a ‘picture theory’ and/or ‘Bildtheorie’ to Wittgenstein, I am not aware of Wittgenstein ever having used the term ‘picture theory’. What I have noticed is that there is a point in time before

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presented in London. I’ll also explain why I think the use of a scale model in the context of a courtroom, rather than a laboratory, lent significance to the incident.’ (From: *HOPOS 2000, Third International History of Philosophy of Science Conference, Vienna, July 6–9, 2000. Abstracts*. Booklet with letterhead graphics for Institute Vienna Circle: Society for the Advancement of Scientific World View. Imprint: kognito Berlin Conference website: <http://ivc.philo.at/hopos/2000.htm>)

which Wittgenstein does not use the word often translated as ‘picture’ (Bild) in connection with a proposition; but that, after that point, the word and its cognates appear frequently in his writings. They occur not only in his writings in the weeks immediately afterwards; many works written even decades later feature ‘picture’, both as a verb [abbilden, tr. as depict] and as a noun [bild, tr. as picture].

That point in time—i.e., the point in time before which Wittgenstein does not use the word ‘picture’ in connection with a proposition, and after which he frequently does so—is recorded in the notebooks he kept while serving in the military, so we know the date (September 29, 1914), and we know what, according to him, occasioned the insight he regarded as so crucial. We know this not only from the notebook entry itself, but from the fact that he recounted the vivid memory he retained of the occasion on which he had this pivotal insight to several friends, multiple times. (von Wright n.d., p. 20 fn. 9; p. 20–21) What occasioned it, he said, was reading about the use of physical miniatures (‘puppen’)—a miniature model—to portray a traffic accident in a courtroom. The description itself found in the notebooks, made on the day he recorded the occasion, actually appears very unassuming on its face, in itself giving no sign of the importance he seemed to later place on it, as it is placed inside parentheses. After ‘In the proposition a world is as it were put together experimentally’ [Im Satz wird eine Welt probeweise zusammengestellt.] he puts in parentheses the following phrase: ‘As when in the law-court in Paris a motor-car accident [automobilungluck] is represented by means of dolls [puppen], etc.’ Though, that he had some sense of the importance he expected it to hold for his project is indicated in a note that follows directly after: ‘This must yield the nature of truth straightaway (if I were not blind.)’ (p. 7)

If Wittgenstein is talking about physical objects like dolls, as it seems he is, you would expect him to talk about models rather than pictures. David Stern’s commentary is helpful here: regarding the use of ‘picture’ rather than ‘model’ in the term ‘Picture Theory’ that is used by so many commentators, Stern explains: ‘Wittgenstein used the word ‘Bild’ to talk about the model, a term usually translated as ‘picture’; [...] While both words cover such things as images, film frames, drawings, and paintings, the idea of a three-dimensional model is more readily conveyed by the German ‘Bild’ than the English ‘picture.’ (Stern 1995, p. 35–36) However, I would amend Stern’s comments, in a way that does no damage to his point, with the recognition that we actually do in fact see Wittgenstein use the word model, too—notably, to relate Bild and Model. This is in T 2.12: ‘A picture [Bild] is a model [Modell] of reality.’ [Das Bild ist ein Modell der Wirklichkeit.] Stern is not the only major commentator on Wittgenstein who seems not to notice this line of the *Tractatus*, though, so I would like here to highlight the fact that in the *Tractatus* there is this explicit use of the word ‘Modell’ in the German text; thus the occurrence of the word model in various English translations of *Tractatus* T 2.12 is not

solely a matter of the translator's choice of how to interpret the term 'Bild.' In T 2.12, then, Wittgenstein is relating Bild to Modell [of reality]. This is in line with Stern's view, i.e., that the picture theory 'involves generalizing from what models, pictures, and the like are supposed to have in common, and treats two-dimensional pictures as just one kind of Bild.' [Stern, *Mind and Language*, p. 36]

Instead of relying solely on notions of model readily available to us, we can also look at the context in which Wittgenstein wrote this. I don't mean where Wittgenstein was located physically, but the cultural context in which the German word Modell ought to be interpreted: How was the word used then? What connotations were associated with the word then? A look at the usage of the term 'Modell' at the time Wittgenstein wrote this line in the *Tractatus* shows that in the late nineteenth and early twentieth century it was often used in conjunction with models of machinery, including steam boilers, engines, and automobiles, and that by 1914 it had become used frequently in association with model airplanes. And, in fact, as I'll show below, when used in conjunction with airplane, Modell took on additional connotation: airplane models were used not just as models to inform, illustrate, and delight, but as experimental models meant to advance research. It is anachronistic to look at the role experimental models have in scientific and technical practice today, however. Interest in miniature models of machinery was a cultural phenomenon: there were clubs that eagerly sought the membership of young people still in school as well as of distinguished scientists; there were well-attended public competitions and exhibitions reported on in newspapers, and magazines devoted to the topic flourished. The magazines featured vendors providing specialized products for the activity of building and furnishing models. Some even thought of it in more epic terms, as a movement. It cut across social classes, countries, disciplines, and professions.<sup>4</sup>

For context here, I look, not just at a particular point or period of space and time, but at how Wittgenstein navigated through the various opportunities the world presented to him. His interest in design and construction of airplanes is consistent over many years. This is known largely from comments reported by others. McGuinness, who spent many hours interviewing family, friends, and acquaintances of Wittgenstein, writes that his sister said of Wittgenstein's interest when he made the choice to go to England to do research at the Kite-Flying Station in Glossop and study engineering in Manchester to long after: 'As long as he worked in aeronautics at all, his aim seems to have been to

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4 The closest analogue I can think of in current society is the cultural phenomenon of computer games: there is a whole subculture built up around online computer games, and many different communities, clubs, events, and publications have formed around the activity of computer gaming. For children, the currently popular computer game Minecraft might be an analogue in some ways to the cultural phenomenon of model-building in the late 19th and early 20th century.

design, build and fly a machine himself'. (McGuinness 1988/2005, p. 69) He mentioned his strong interest in aeronautics to Russell even after he had left engineering study at Manchester. It appears that he still had some interest in engineering while at Cambridge studying logic. We know this due to a letter of Russell's. In managing the collection of Wittgenstein's books and papers he's received, which he had agreed to buy when Wittgenstein had decided to dispose of them, he writes to Wittgenstein asking him what he ought to do with his parcels from engineering firms, at least some of which I take to be printed materials. [*Wittgenstein in Cambridge*, Letter No. 90, p. 127] Even though Wittgenstein had his books disposed of in 1914, they were not destroyed nor lost to posterity; rather, Russell kept at least some of them. From Russell's collection, we know that among the books Wittgenstein had while he was in Cambridge were many about the history of flight, as explained below.

Other indications of the context that is relevant to Wittgenstein's early thought and writings are the desires he had about where and what to study. In 1906, Wittgenstein had wanted to study with Boltzmann, and biographers have assumed it was his interest in physics that explains this desire. However, when Boltzmann died that year, Wittgenstein went to the Technische Hochschule (THS) in Charlottenberg near Berlin to study engineering, not physics. Oystein Hide, who identified, catalogued and reviewed the set of books in the Russell archive thought to have belonged to Wittgenstein (2004) believes that many of the books on the history of flight that we know of in that collection were purchased from an antique bookseller during the time Wittgenstein was a student at THS. This independently indicates that Wittgenstein had an ardent interest in flight at the time, an interest we know continued in the years to follow as he left Vienna to move to and study in England. And, the visits to antique booksellers to purchase books on the history of flight indicates that he fed that interest in activities outside of the formal schoolday. Wittgenstein seems to have regarded his experience at the THS as a waste of time. Knowing how he spent his time outside of formal school classes, we can attribute to him both a lack of interest in his engineering classes at THS and an ardent interest in designing, building and flying an airplane.

Wittgenstein's interest in flying as a boy does not need any special explanation, as it was a very common interest for a boy at that time. But the form that interest took—the kinds of books he bought, his huge decision to move to England to pursue flight research in spite of his poor grasp of the English language, and his interest in spending months in a relatively isolated location doing research at the Kite-flying station—is somewhat singular. Here, it seems to me, Boltzmann's interest in and advocacy of flight research may well have played an important role—as McGuinness also implies (McGuinness 1988/2005). Boltzmann's 'On Aeronautics' was a major lecture

delivered to one of the most important societies for scientific research. It was a well-attended public lecture given near Wittgenstein's family's home in the Allegasse in 1895, when Wittgenstein was six years old, was reported on in the newspaper afterwards, and reprinted in early editions of the German editions of his *Populäre Schriften*. I provided an English translation ('On Aeronautics') as an appendix to my book, as no English translation of it was available.

Boltzmann stressed the value of studying kites in flight, presenting kite-flying as crucial scientific research that could be carried out using a child's toy. What is interesting is Boltzmann's remarks on the relative superiority of England over Germany with regard to their expertise in experimental models. As I noted (Sterrett 2006), when Boltzmann was asked to write an encyclopedia article on Modell, he tried to refuse the request and suggested that instead the editor ought to get someone from England, where there are experts on models. (Blackmore 1995, p. 57) It is also worth noting that Boltzmann talks specifically about models of flying machines, and what he says about them is significant: 'A distinction must be observed between the models that have been described and those experimental models that present on a small scale a machine that is subsequently to be completed on a larger, so as to afford a trial of its capabilities. Here it must be noted that a mere alteration in dimensions is often sufficient to cause a material alteration in the action...'

What Boltzmann describes here is the kind of model that, unlike many other scale models, is an *experimental* scale model. Then he goes on to say that, unlike the previous models he has been describing and making observations on, these are different—in how they serve as models, and in the considerations for constructing them—and he explains that the theory behind understanding how experimental (scale) models are to be constructed is the theory of dimensions: '... the various capabilities depend in various ways on the linear dimensions. Thus the weight varies as the cube of the linear dimensions, the surface of any single part and the phenomena that depend on such surfaces are proportionate to the square, while other effects—such as friction, expansion and conduction of heat, &c., vary according to other laws. Hence a flying-machine, which when made on a small scale is able to support its own weight, loses its power when its dimensions are increased. The theory, initiated by Sir Isaac Newton, of the dependence of various effects on the linear dimensions, is treated in the article Units, Dimensions of.' (Boltzmann 1974, 220)

Boltzmann's mention of Isaac Newton in connection with experimental models of flying machines explains an anomaly in Oystein Hide's catalogue of Wittgenstein's books at the Bertrand Russell Archives. I noted that Wittgenstein obtained a copy of Newton's *Principia*.; this is very plausibly due to Boltzmann making the point he did about Newton in this lecture, of which Wittgenstein was almost certainly aware. Wittgenstein also obtained a copy of Galileo's *Two New Sciences*, a precursor to Newton's writings on



the problem, which discusses the problem of experimental scale models in almost the same terms that Boltzmann put it: in Galileo, a support structure for a ship when built on a small scale, loses its strength when built in the same proportions but of a larger size. These two purchases are anomalous; there aren't other books of that sort among his collection. Wittgenstein owned no other books by Galileo, and the book he bought, an English translation of *Two New Sciences* was very rare, difficult to find, and costly. [see Sterrett 2006, p. 130–131] I speculated that Wittgenstein's interest in these rare books was due at least in part to Boltzmann's remarks in his encyclopedia entry 'Modell', since Boltzmann mentioned Newton's theory of dimensions as the basis for understanding scaling, and it is well known that Galileo also takes up the topic in *Two New Sciences*. If Boltzmann's advocacy of flight research—he was concerned that Germany was behind other nations—was salient in Wittgenstein's life, it would explain the path Wittgenstein navigated: first trying to study with Boltzmann, then studying engineering in Germany, but leaving for a country considered better suited to make advances in flight research at that time: England. I also noted that Boltzmann's formulation of the problem reiterated and reinforced the way the problem of heavier-than-air flight was presented in Jules Verne's *Robur the Conquerer* in German (*Clipper of the Clouds* in England) which was very popular among boys of Wittgenstein's generation.<sup>5</sup> I also discussed the role of Viennese engineer Otto Lilienthal in the history of flight and in Wittgenstein's boyhood milieu. (Sterrett 2006, Ch. 2) Lilienthal's fame has stood the test of time and he is widely recognized as a pivotal figure for his human gliding experiments.

It turns out that Boltzmann's interest in flight was even more intense and practically-oriented than I had realized: Boltzmann and Lilienthal knew each other. Dahmen (2007) has devoted an entire article to the topic of Boltzmann's advocacy of research into heavier than air flight. He presents and reviews the correspondence between Ludwig Boltzmann and Otto Lilienthal. Boltzmann evidently was interested in purchasing a glider from Lilienthal and it sounds like he was planning to carry out research using it himself. Thus Boltzmann's remarks about the theory of dimensions explaining the behavior of experimental models of a flying machine in his article 'Modell' are more than a disinterested observation about the methodology of models; he may have been thinking of staking his safety on it. The last line of that essay, about the solution to the problem of flight requiring someone who is not only a genius, but also a hero, could allude to the need for such personal risk-taking.

The remarks Boltzmann made in his article on models for *Encyclopedia Britannica* then take on much more significance. In summary, he made these

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5 The presentation of the problem of heavier than air flight in Verne's novel as a scaling problem much the same way Boltzmann presented it in his encyclopedia article, 'Modell', is discussed in Sterrett 2006, p. 25 - 27.



important points: (i) It is not correct to think of experimental scale models of flying machines in the same manner as the other kinds of models he discusses. For the other kinds of models he discusses, he said, ‘it is perfectly clear that these models of wood, metal and cardboard are really a continuation and integration of our process of thought.’ But experimental models cannot be regarded this way, he says. Thus the view of models as ‘a continuation and integration of our process of thought’ is not the proper account of the methodology of experimental models. Rather, (ii) the methodology of experimental scale models of flying-machines is the theory of dimensions. Importantly, he goes on to say that (iii) experimental scale models include not only models in which mechanical forces are involved, but ‘models of thermal, electro-magnetic and other engines—*e.g.* dynamos and telegraphic machines.’ This naturally invites the question as to whether the method used for experimental models of flying-machines, *i.e.*, the method of dimensions we find the beginnings of in Newton, might be extrapolated from mechanics to thermodynamics and electrodynamics, and, even, generalized so as not to be specific to any particular physical phenomena.

## The Model Engineer

None of the biographical work on Wittgenstein indicates that models of airplanes had a role within the THS school curriculum, and Wittgenstein later spoke of his education there as being of little value. Yet, there was more to intellectual life than school. Did his hours outside school include model building? It is hard to answer this for his specific years at THS, but it is known that he built a model of a sewing machine (McGuinness 1988; p. 45; 178) while quite young, and that he was known at school for having a model airplane. The significance of model airplanes to the epic problem of heavier-than-air flight was that some, but not all, of them were successful examples of heavier-than-air flight, and the ones that were successful could actually be set in competition with each other, experimentally. Model airplanes powered by large, strong rubber bands could fly for extended periods (on the order of a minute or longer).<sup>6</sup> The model of a sewing machine was a working model as well. As Boltzmann indicates, the experts on making models were to be found in England. But what kind of expertise is he talking about here; is he talking about expertise in making the kind of models that Wittgenstein would have had as a boy, *e.g.*, airplane models and models of sewing machines to be constructed by hobbyists?

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6 As Wittgenstein was just about to leave research in aeronautics, an international cup (now known as the Wakefield Cup) for “aeromodels” was established, and was first awarded in April 1911 at a competition held in the Crystal Palace in London. One account is available at [old.fai.org/f1-free-flight/wakefield-international-cup/427-ciam/ciam-f1/ciam-wakefield/33215-lord-wakefield-of-hythe-1880-to-1941](http://old.fai.org/f1-free-flight/wakefield-international-cup/427-ciam/ciam-f1/ciam-wakefield/33215-lord-wakefield-of-hythe-1880-to-1941)

You might wonder why a distinguished physicist writing an encyclopedia article would even take note of the skill of hobbyists or the expertise involved in a toy-maker's craft. But it is anachronistic to use the kind of categories we'd use to characterize models now, such as toy versus scientific model, to describe the models of the late nineteenth and early twentieth century. In that encyclopedia article on models, Boltzmann mentions the model collection in the US Patent Office; these would in most cases be working models of the machines for which a patent was sought, though they would not necessarily be models used for scientific and technical research.<sup>7</sup> The goal would be to illustrate how the machine worked; thus some scientific knowledge would be drawn upon in designing the model to ensure that it would work in a way that illustrated how the larger machine being modeled worked.

One manifestation of the cultural status of models is the magazine *Model Engineer* begun in 1898 in the UK, and still being published today. What was modeled? Boats, of course. But also steam boilers. Engines of every kind. Windmills. Tractors ('Traction Engines') Railway cars for all sorts of specialized purposes. Screw Propellers. Automobiles, too. These kinds of models often aimed to please the eye as well as to illustrate how the machine operated; thus, they usually reflected the proportions of the thing modeled, at least for the visually prominent outlines. A few examples to illustrate how the art of crafting small objects was intermixed with the employment of mechanical principles may be helpful here in evoking the context in which the word model was used circa 1914. First, here is an entry about a model boiler from the magazine *The Model Engineer and Electrician* in 1908, that illustrates that 'working model' was taken in an extremely literal and precise sense: here, the author is proud of the fact that the efficiency of the model boiler is so close to the efficiency of the boiler it models.

### **A Model Boiler Trial.**

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**A**N interesting example of this was shown to the members of the Junior Institution of Engineers on the occasion of their recent visit to the engineering laboratories of King's College, Strand, London. For the purpose of educating students in the process to be followed when making a boiler trial a model Thornycroft water-tube boiler is arranged upon a bench with the testing apparatus permanently connected to it. Gas firing is used, a standard meter measuring the consumption of gas. The whole forms a set of educational apparatus, and a student can perform the necessary tests and obtain a knowledge of the essential measurements to be made to ascertain the efficiency of a boiler. Professor D. S. Capper, M.A., M.Inst.C.E., in showing the model, made the interesting statement that the figures of efficiency tests which he had obtained came within a decimal place of the actual figures obtained by Messrs. Thornycroft & Co., Ltd., with their full size water-tube boilers made to the same design.

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7 A discussion of this collection, with excellent photographs, is online at 'Invention and the Patent Model', The National Museum of American History at <http://americanhistory.si.edu/invention-and-patent-model>

Many models were propelled by engines that really operated; often various types of substances found in the household could be used as fuel, such as paraffin or alcohol. The engines burned the fuels and the processes inside them were very like full-sized engines, operating at high pressures, as shown by the following article about providing safety valves for your toy model engines:

30 *THE MODEL ENGINEER'S HANDYBOOK.*

The valve used for the toy-engine now being described is illustrated at Fig. 19. It has a spiral spring to keep the valve on its seat. This is effective when the power of the spring has been definably gauged; but when the valves are put together haphazard, no dependence can be placed upon the pressure at which the valve will blow off.



FIG. 19.  
Section of  
Safety-  
Valve.

The body of the valve is shown in section. The valve is fitted on the rod; it rests on the conical seat of the body, and is pressed down by the spiral spring within the barrel. The body is screwed into the top part of the boiler by the thread at the bottom, and steam, coming up the hole, presses the under side of the valve. When the pressure of the steam is sufficient to overcome the pressure of the spiral spring, the valve is lifted, and the steam escapes through the holes shown at the top of the barrel.

The cover is screwed on the body-part, and confines the spring. It has a hole through its centre, to allow the valve-rod to pass. Especial attention should always be given to the safety-valve at the time heat is applied to the boiler. See that the valve is not fixed to its seat, nor in any way confined, as an explosion may follow if these precautions are neglected.

The engine shown by the illustration is usually mounted on a three-legged stand, which raises it from two to three inches. A wire stand may be made according to fancy, or perhaps some contrivance may be improvised to support the boiler at a convenient height for applying heat beneath. A glance at the illustrations on pages 10 and 11 will show this.

A small lamp, burning methylated spirit—that is, spirits of wine—will supply the requisite heat. It should have a clean and dry wick of lamp cotton. The size of the flame may be regulated to a certain extent by the quantity of wick that is drawn out. The lamp must not be quite filled with spirit;

These magazines featured original (i.e., only one was made) handmade models with descriptions of the materials, processes and tools used. Model hobbyists shared their experiences and advice, but some items, such as model boilers and model engines, required so much work and practice to get right that they were manufactured for sale to hobbyists for use in their constructions, too. A model toy-engine might propel a boat, or a tractor, or even an automobile. The 1908 *Model Engineer and Electrician* prominently featured a model automobile; the wheels are 3 inches in diameter, and the automobile is 13 inches long and over 7 inches high.

THE  
**Model Engineer**  
And Electrician.

A JOURNAL OF PRACTICAL MECHANICS AND ELECTRICITY.

EDITED BY PERCIVAL MARSHALL, A.I.MECH.E.

Vol. XVIII. No. 359.

MARCH 12, 1908.

PUBLISHED  
WEEKLY

**A Model Motor Car.**

By PERCY W. MAYHEW.



MR. P. W. MAYHEW'S MODEL MOTOR CAR.

**T**HE car illustrated herewith is made principally of ash, ebony having been used on parts where extra strength was necessary, and minor parts of brass. The car contains a moderately powerful clockwork motor, there being no room under the bonnet, which can be disconnected from the rear axle by a clutch and can be operated by a lever at the side of the car, so that when the car is at a standstill the motor can be worked. The car is controlled by a lever under the steering wheel, which works on a brass plate provided with notches. The motor can be attended to by means of a door at the back of the car. All wheels have springs made of oak, and by cutting them very

this, they have a fair amount of resiliency. I have gilded the parts where wood is used in place of brass, such as the horn, wheel bosses, etc. The lamps are made of wood. The mudguards were of tin bent on a template and fixed by brackets with small screws. The wheels are made of hardwood, and the tyres are turned on. The seat is upholstered with black leather. A foot-brake is also fitted, and on working same it presses a band on to a pulley fixed to the rear axle. The frames are tenoned, screwed, and glued.

The principal dimensions are as follows: Wheel-base, 7½ ins.; diameter of wheels, 3 ins.; total length, 13 ins.; height, 7½ ins.; width, 1½ ins.

As Boltzmann noted, experts in constructing small models of machines could easily be found in England; the implication is that one would have trouble doing so in Germany or Austria at that time. The movement in England spread to the US, too, with model clubs, exhibitions, and magazines thriving there, too. Once one knows what to look for, examples of this cultural phenomenon can probably be found in any number of places. For example, in a recent biography of Ann Dunham, mother of President Barack Obama, we read that her great-great grand-uncle Frank W. McCurry, born in 1893 (four years after Wittgenstein), who 'climbed derricks as a child in Peru [Kansas] and went on to become a pharmacist, a chemical engineer, and an oil company vice president, acquired a certain degree of fame, as an adult, for an unusual hobby. Over forty-five years, he built, fine-tuned, and continually updated a fully functioning scale model of an oil refinery, made largely out of glass. The model refinery, which had two catalytic cracking units and actually produced gas from oil, traveled to high schools and colleges all across the country.' (Scott 2011) Such accomplishments encountered in isolation from the model engineer community appear as quirky personal interests, but making exquisite working models of complex machinery was not in fact such an unusual hobby in the US and the UK during the early twentieth century.

In some fashion, the movement spread to Europe, too: In the June 1914 issue of *Popular Mechanics*, it is reported that ‘there is a famous German model shop in which exquisite miniatures of bridges, boats, steamers and models for demonstration and experimental purposes are made.’ Besides the report on steamboats made for exhibition, there is this amazing news: ‘A model of a universal rolling mill for I-beams, with a capacity for beams up to 40 in. high, was recently made in this shop, and the little model was so perfect that machine-steel billets could be rolled into I-beams only  $\frac{3}{4}$ -in. high. Bridges, lifts and intricate machinery which cannot well be installed for exhibition purposes are shown in miniature, and this firm is kept busy, orders coming to it from all parts of the world.’ [‘Miniature Models Made in Big Shop’ *Popular Mechanics*, June 1914.]

#### MINIATURE MODELS MADE IN BIG SHOP

Near Cologne there is a famous German model shop in which exquisite miniatures of bridges, boats, steamers and models for demonstration and experimental purposes are made. So complete is this plant, that steamboat models with all external fittings in most perfect reproduction of great boats are made for schools and exhibition purposes. A model of a universal rolling mill for I-beams, with a capacity for beams up to 40 in. high, was recently made in this shop, and the little model was so perfect that machine-steel billets could be rolled into I-beams only  $\frac{3}{4}$  in. high. Bridges, lifts and intricate machinery which cannot well be installed for exhibition purposes are shown in miniature, and this firm is kept busy, orders coming to it from all parts of the world.

By 1914 the idea of a child *making* miniature models, rather than merely *playing* with them, appeared in an advertisement in *Popular Mechanics*: ‘Say Fellows! Build the Brooklyn Bridge ... in your own home—build it like *real* engineers with *real* solid steel girders, beams, plates, bolts and nuts... . Build traveling cranes, elevators, towers, aeroplanes, power derricks, Ferris wheels, printing presses and automobiles that really *run* and *work*—build all your own toys ...’

Recalling Boltzmann’s point about why experimental scale models are different than other kinds of models that we use as ‘a continuation of our thought’, i.e., that an experimental model that works when built at one size may not work when using the same proportions but built of a different size, we can see that often a model builder would have to take into consideration factors other than just those needed to scale the linear dimension of the model,



if the goal was a *working* model. Yet these were still not experimental (scale) models in the sense needed for scientific research. In the mind of someone who pondered the relationship between miniature machines and the machines they modeled, the model engineer movement might occasion the same question that was so fundamental to solving the problem of heavier-than-air flight: how to scale up from the model to a full size machine—but the model engineer hobbyist would not really need to solve that general question in a rigorous manner. Ad hoc measures for a specific model, used in conjunction with scientific and technical knowledge, trial and error, and sharing of information via clubs and magazines, was in many cases enough to produce models that performed as intended. Not all, however: a recurring theme in the magazine was controversies over how to design the screw propeller for a model marine vessel. And flying-machines were enough of an exception that those interested in model flying-machines often formed their own clubs.

Although the model engineer movement was strongest in the UK and the US, we have seen that there was a shop selling these highly engineered working models of machines and machinery that had achieved fame and was flourishing in Germany by 1914. Another movement in Germany around that time was the interest in building and flying model aeroplanes. An article entitled ‘Modell-Flugvereine’ [Model Flying Clubs] in the *Deutsche Luftfahrere Zeitschrift* of December 20, 1916, gives an account of this cultural phenomenon in Germany<sup>8</sup>, from which I quote:<sup>9</sup>



**Say, Fellows!**  
**Build the Brooklyn Bridge**

in your own home—build it like **real** engineers with **real** solid steel girders, beams, plates, bolts and nuts. It's bully fun, boys! Build traveling cranes, elevators, towers, aeroplanes, power derricks, Ferris wheels, printing presses and automobiles that really **run and work**—build all your own toys and play a big man's game with

**THE AMERICAN MODEL BUILDER**

Now, listen, boys! Tell your father about it. Tell him that the American Model Builder is the best ever—that it is a collection of the main mechanical parts scientifically constructed—that it is made of spring-tempered, nickel-plated steel—that it has real solid brass gears—and that its wheels won't slip on the axles because case-hardened set screws are used.

**Write for dandy free book—**  
 "The Story of Steel," which shows dozens of new models and tells all about the American Model Builder.

 *Eight sizes, 50c up, at sporting goods, toy and department stores everywhere.*

**The American Mechanical Toy Co.**  
 311 East First Street, Dayton, Ohio

Look for This Mark

8 'Modell-Flugvereine', *Deutsche Luftfahrere Zeitschrift*, 20 Dec. 1916, p. 368. Smithsonian Collections Online, <http://tinyurl.com/tinyurl/5jzP75>. Accessed 7 Jan. 2018.

9 Original in German. The translation is my own, with a few changes suggested by Jasmin Özel.

It is well known that our earliest and first designers and aviation pioneers, such as Lilienthal, Etrich, Langley, Chanute, Wright and others, experimented with their ideas on models and gained their first experiences through various and iterated model constructions.

In many cities of the German Reich, a movement that began in 1912 led to the founding of clubs whose members were concerned exclusively with the construction of model airplanes. Not for entertainment or play, but for teaching younger members: to teach them about the concept of 'heavier than air' aircraft, in order to help them develop a proper understanding of the construction of such aircraft. And for them, upon understanding, to give older members fresh suggestions for continuing their experiments, when daunting failures occurred, as they often do, when trying out a new model.

How this building of aircraft models and the association of model-making supporters in clubs with each other increased the personal knowledge of each individual and enabled them to accomplish what would undoubtedly not have been so quickly and effectively achieved without these studies on models, is becoming revealed in this war, in a fortunate way. It is a commendable fact that, with very few exceptions, almost all members of model clubs that have been drafted or joined as war volunteers serve in the Air Force, where their service excels, both among the aviation troops and the aircraft pilots. Others found recognition of their abilities in technical service. Their prior knowledge shortened their training and facilitated their understanding and their ability to absorb new technical difficulties. The value of model making is evident here. However, a lack of education and orientation of the public eye—and, an unfortunately often intentional lack of regard for this field of expertise on the part of many experts—can lead to a misjudgment of the value of modeling.<sup>7</sup>

Wittgenstein left Manchester in 1911 for Cambridge, which is before the movement took shape, according to this article; however, between 1911 and the summer of 1914, he made trips back to Vienna numerous times. In fact, he spent time in Vienna in July 1914. (This is based on the return address of his letter to G.E. Moore from that visit.<sup>10</sup>) When he requested to join the military, he had hoped to be assigned to the part of the military that had to do with aeronautics, which, at that time, was located in the Balloon division.<sup>11</sup> It is more than plausible that he would be interested in the existence of this Modell-FlugVereine movement and, given his family connections, and his experience living in Germany while studying at the THS, that he would be able to learn of its existence and a little about its activities.

10 *Wittgenstein in Cambridge* shows that 'Letter to G E Moore' [from Wittgenstein] has a return address from the house at Neuwaldeggerstrasse 38, on outskirts of Vienna. (McGuinness 2008, p. 75)

11 <http://www.wittgensteinchronology.com/7.html>



## The Model in Law-Court

As explained above and in previous work, my own evaluation of the role of the event Wittgenstein placed so much emphasis on—of the miniatures being used in a courtroom to portray a traffic accident—is that intellectually the moment was more a matter of Wittgenstein's recognition that he had come across what he had been looking for, than it was a brand new realization or a moment of transformation. That is, I believe that the moment was significant, but that the significance it held was more like the significance of an artist or writer coming across just the needed item or inspiration to proceed with their efforts, as opposed to the significance of a moment of conversion dislodging an opposing view. That is—as I think is often the case with sudden insights—I think that Wittgenstein's ideas about propositions had already been developing, and seeing the use of miniatures to depict an accident used by a lawyer in a law court suddenly gave him a metaphor or a way of organizing those thoughts in an especially perspicuous way. The way I described it in my book was that, when he had an insight occasioned by the magazine article's description of a miniature setup used in a law-court that served up to him what he needed to formulate his thoughts about the proposition-as-a-picture and picture-as-a-model, it was like the recognition a sculptor has in lighting on an appropriate item to use as a found object in an sculpture already partially envisioned. (Sterrett 2006, p. 251–252)

A great many people have written about Wittgenstein's reading of the use of miniatures in the courtroom. According to von Wright's memoirs, Wittgenstein mentioned it to many friends on many different occasions (von Wright, n.d. 20 fn 9); noone, so far as I am aware, has ever located the newspaper account or the court case about the traffic accident that occasioned his insight. My concern, however, has been, not that the newspaper account has so far not been located, but that these discussions have not put the use of miniatures in the courtroom in their historical context. The context of the history of science and technology is especially relevant here, for it reveals that there was a time when miniatures were not just toys, but scientific objects. As for the depiction of the use of models of a traffic accident in a magazine, I have, in spite of the expenditure of an inordinate amount of time on fruitless efforts to locate it, finally happened upon something close to it: a magazine account of the use of a miniature car and bus to depict a traffic accident, which was published in 1914. This is consistent with a report that Wittgenstein, much later, spoke of seeing 'a newspaper notice which said that in Paris at a legal proceeding about a traffic accident, the accident was presented with dolls and a little bus.' (Klagge 2016) The sketch of the lawyer using the miniatures is credited to a French publication published in Paris (*L'Illustration*). It is striking that the mention of dolls and a little bus match this illustration, too. I cannot be certain, in the sense historians demand, that it is the same depiction of what happened in the lawcourt or even

that it depicts the same accident, but I think it *is* at least fair to say that the illustration and accompanying text depict the sort of use of miniatures in a courtroom that was a newsworthy practice in 1914.

### LAWYER STUDIES ACCIDENT WITH PLAT AND TOYS

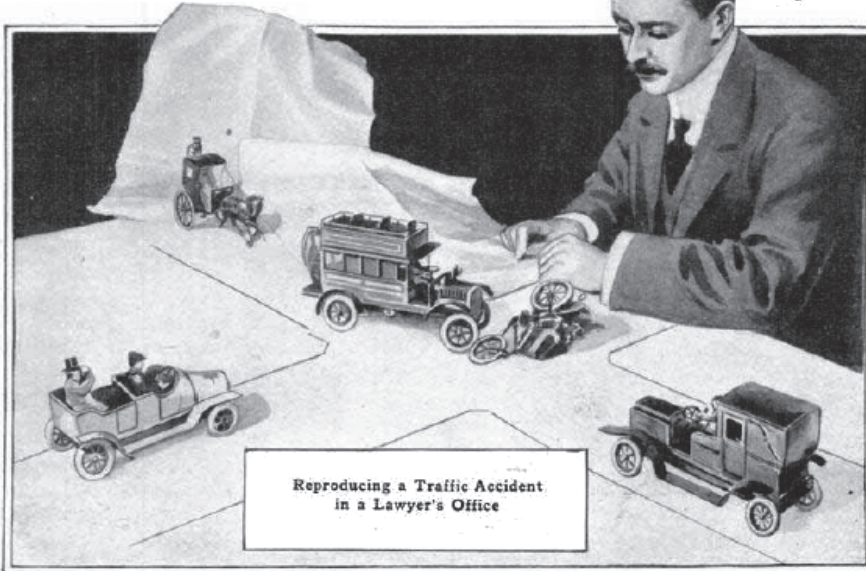
A London lawyer, who specializes in personal-injury litigation, in studying a case to place the responsibility for the accident, and obtain a clear idea of the different phases of the affair, reconstructs the whole occurrence on a plat or plan of the locality, placing miniature vehicles representing the parties in such position that the question of right of way, traffic regulations, rules of the road, and such matters, are clearly shown. Thus equipped, he is able to place his case lucidly before the court.



Scale Designed to Meet Parcel-Post Requirements

and accurate scale for use in weighing the many-shaped packages sent by parcel post, has resulted in the adoption of a new model, the invention of a Chicago man. The new scale is low, entirely constructed of steel, and the beam is below the level of the platform, so that projections from odd-shaped packages do not hamper the easy read-weight. The set to one end and

ing of the beam is ounces at to pounds,



Courtesy L Illustration

The caption on the illustration reads: 'Reproducing a Traffic Accident in a Lawyer's Office' and the accompanying text, a brief news item, is: 'LAWYER STUDIES ACCIDENT WITH PLAT AND TOYS. A London lawyer, who specializes in personal-injury litigation, in studying a case to place the responsibility for the accident, and obtain a clear idea of the different phases of the affair, reconstructs the whole occurrence on a plat or plan of the locality, placing miniature vehicles representing the parties in such position that the questions of right of way, traffic regulations, rules of the road, and such matters, are clearly shown. Thus equipped, he is able to place his case lucidly before the court.'

The illustration depicts a bus that has collided with a smaller wheeled vehicle in the intersection of a road. Three other vehicles are shown approaching the same intersection. Several things are notable about the news item. First, it mentions that the lawyer is interested in ‘the different phases’ of the accident. In the case of a collision, this would mean the lawyer is interested in the relative positions of the vehicles and their trajectories before, during, and after the point in time that the vehicles collided. Second, it mentions that the lawyer reconstructs ‘the whole’ occurrence and does so in a specific context, ‘a plat or plan of the locality’. Some of the large sheets of paper on the table the lawyer is working on are raised in relief, simulating hilly terrain that blocks the view of the two vehicles approaching the intersection from each other. Thus the lawyer would be interested not only in the trajectories of motion of the center of motion of the vehicles as they approached the intersection before colliding, but in the trajectory of all the visible points on the vehicles, and their relation to the line of sight of the occupants (dolls) in the vehicles.

The way of using the model setup pictured I have just described is not quite the same as using the models as experimental models scientifically, or as experimental engineering scale models; that would require one more step: designing the setup so that the model setup and the actual setup it models are physically similar systems (i.e., similar in the sense of a certain kind of behavior such as kinematic behavior (same motions and velocities), or dynamic behavior (same forces)). The kind of behavior relevant here would be behavior relevant to some claim important in the trial. As explained in (Sterrett 2006, 2009, 2017a, and 2017b), to say that two setups are physically similar systems is always with respect to some specific behavior, and the behavior of interest here would depend on the claims in the lawsuit. If the claims in the lawsuit turned on a measurement such as how fast a car was going, or how much impact force the victim sustained, the kinds of similarity would be kinematic similarity and dynamic similarity, respectively.

## Before and After 1914

My views on the nature and significance of the event occasioned by reading about the use of miniature models in the courtroom are informed by looking at various elements of Wittgenstein’s milieu that provide the context in which Wittgenstein viewed the magazine article about ‘representing by means of dolls’. Besides the various modelmaking movements mentioned above, another part of the context is the scientific research community, which was distinct, as an institution, from self-appointed researchers such as the Wright Brothers and Otto Lilienthal. Yet, in terms of individuals participating in the activities, there was extensive interlacing between such institutions and communities; here Boltzmann’s interest in Lilienthal’s gliders is a good

example. One formal such crossover was Edgar Buckingham, a physicist at the National Bureau of Standards in Washington, DC, who was loaned to the US Advisory Committee on Aeronautics. In particular, the year 1914 was a year especially marked by advances in research using scale models, theoretically as well as practically; in my paper ‘Physically Similar Systems: a history of the concept’ (Sterrett 2017a) I called 1914 ‘the year of physically similar systems’ due to there being so many publications germane to the topic appearing that year in the UK and in the US. One of these was the relatively understated, straightforward presentation of the foundations of the methodology of experimental (scale) models that Buckingham wrote in a publication that had been created to disseminate short communications about research of especial and/or urgent importance, sent out from US to other countries; the *Journal of the Washington Academy of the Sciences*; after that year, it became the *Proceedings of the National Academies of Sciences*, which is eminent to this day. Buckingham’s short communication published in July 1914 was under the PHYSICS rubric, and was entitled ‘Physically Similar Systems’. Reading the literature of that era, it is clear that news about technology and, especially, about aeroplane technology in 1914, was eagerly and urgently exchanged across borders and oceans—remember, there had already been a ‘Victorian Internet’ for quite some time by then—a transatlantic cable and an extensive network of electronic telegraph communications, and publication channels to disseminate the news were in place. (Standage 1998) So research in Washington DC easily made its way to Vienna where Wittgenstein was in mid-1914, practically instantaneously when necessary, and on a regular basis via such formal channels, as well as by more informal means. And, there were many other important publication events related to the topic that year; practically one per month [Sterrett 2006; Sterrett 2017].

How did the events of 1914 figure into the writing of the *Tractatus*? That is, what difference is due to whatever important insight was gained in 1914? I provided a sort of answer to this in my book. Illustrating with figures, I showed how two important discussions of how a proposition depicts given in the *Tractatus*—(i) of the proposition as a picture, and (ii) of gramophone records and a symphony score having the same logical form—underwent development during the war, based on the *Notebooks* Wittgenstein kept during the war. I also provided some historical scientific and technological context crucial to understanding his use of gramophone records in the latter discussion.

Here I’ll refer to the figures presented in my book, *Wittgenstein Flies A Kite: A Story of Models of Wings and Models of the World* [Sterrett 2006] to illustrate how the events of 1914 discussed above figured into the writing of the *Tractatus*.

The *juxtaposition of sketches portrays the development of two-part accounts into three-part accounts, which occurred during the war*. Juxtaposing

Figures 1A and 1B shows that the pre-1914 view of a symphony (the two two-part sketches in Figure 1A) is developed into the post-war view in the *Tractatus* (the three-part relation in Figure 1B). Juxtaposing Figures 2A and 2B with Figure 4 shows that the pre-1914 view of propositions (the two two-part sketches in Figures 2A and 2B) is developed into the post-war view in the *Tractatus* (the three-part sketch in Figure 4).

Thus, *the sketches that portray the two (post-war) views of themes (i) and (ii) I find in the Tractatus* (of the proposition as a picture and of the gramophone record and symphony score having the same logical form, respectively) are Figure 1B and Figure 4, respectively.

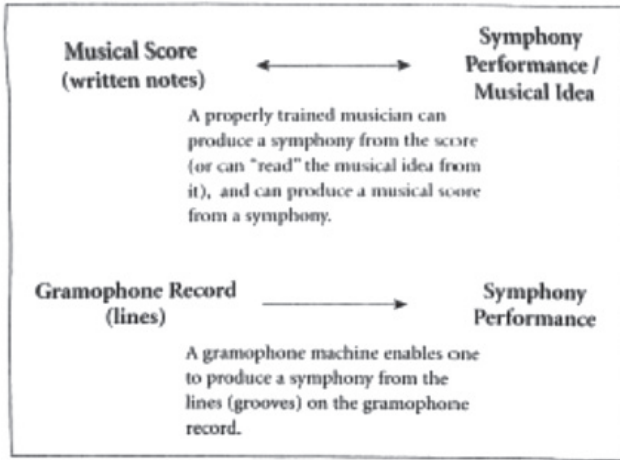


Figure 1A Musical scores and gramophone records.

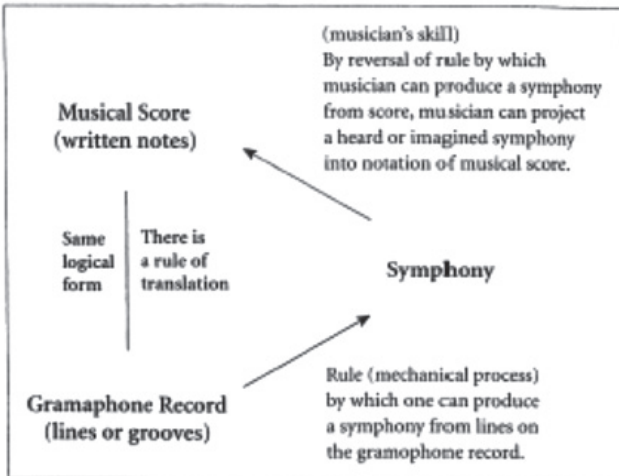


Figure 1B Written notes and gramophone records in the *Tractatus*.

*In the Tractatus, the score and the gramophone record "stand in the same internal relation" of depiction, which is what having the same logical form amounts to.*



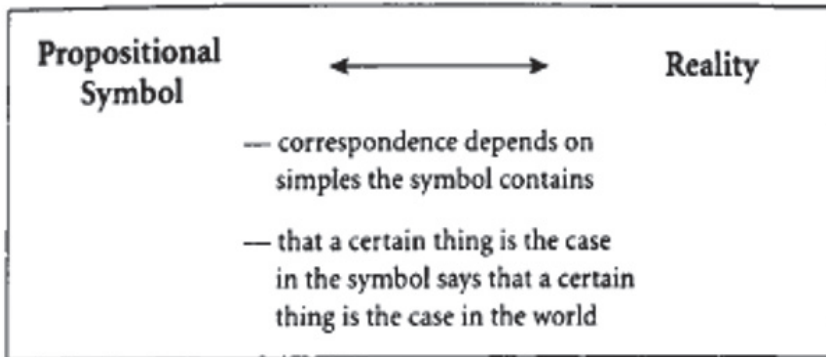


Figure 2A Propositional symbols—prewar view.

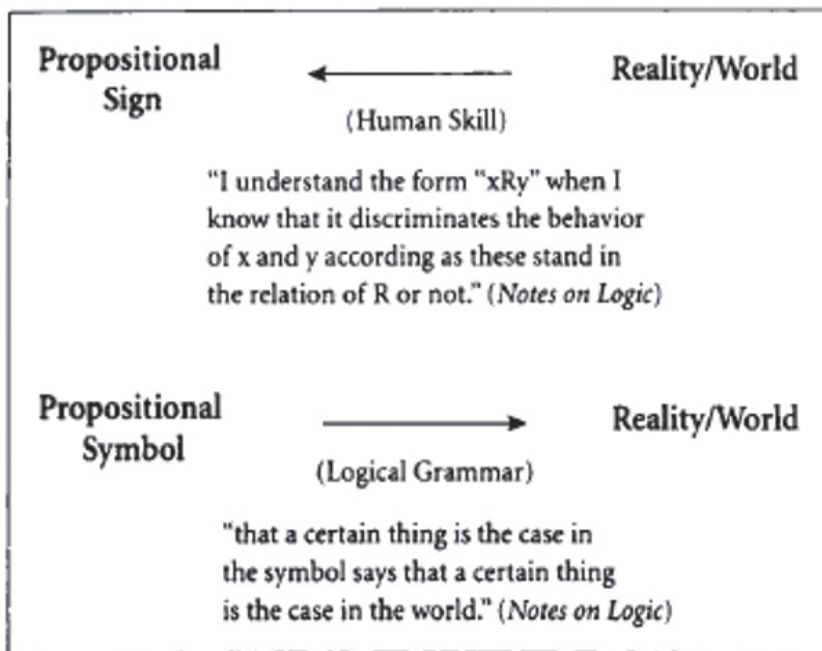


Figure 2B Propositional signs, symbols, and truth-functions—prewar view.

*Regarding propositional signs: I say that if an x stands in the relation R to a y the sign "xRy" is to be called true to the facts and otherwise false. (Notes on Logic)*

*Regarding propositional symbols and truth functions: "In two molecular functions that have the same T-F schema, what symbolizes must be the same." (Notes on Logic)*

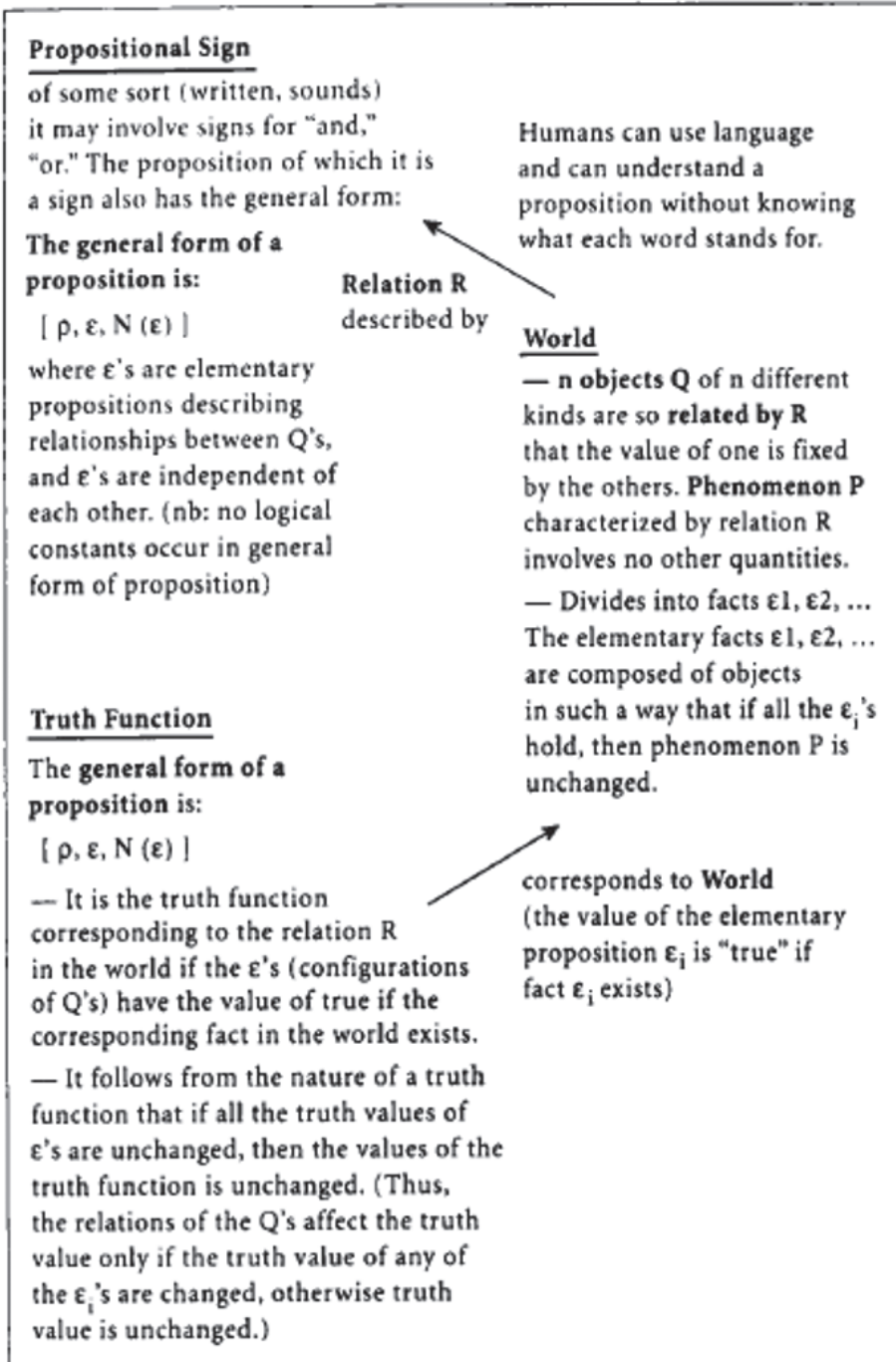


Figure 4 Propostions in the *Tractatus*.



As I see it, there is a development of the two themes (i) and (ii), as follows:

— *Prior to mid-1914*, Wittgenstein would have had experiences with the fairly new technology of producing music from the grooves of a gramophone record, and, due to the family he grew up in, was party to many critical conversations about the nuances of producing music from musical scores via musicians' performances (whether by playing an instrument, or by voice/whistling). This is shown on Figure 1A from my book: basically, what the sketches in Figure 1A depict is that a properly trained musician can produce a symphony from the score (written in musical notation); and that at least some musicians can also produce a musical score from hearing a symphony. In addition, Figure 1 depicts that a gramophone machine enables one to produce a symphony from the lines on a gramophone record. (There is no mention of the symphony performance producing a gramophone record, though.) It is interesting that the technology of recording sound in lines was developed years before this—the phonautograph, which produced records that were valued as two-dimensional visual records of sound, without any interest in their value as means of producing/reproducing sound. (Sterrett 2006; Sterne 2003; Sterne & Akiyama 2012) The phonautograph was very well-known as a scientific device; it is reported that every schoolchild read in their science textbook how a phonautograph could produce these visual records of sound, and that the nature of sound could be studied from these visual records. As for the possibility of producing sound from these graphical or visual records, the inventor of the phonautograph showed only scorn at what he regarded as the trivialization or vulgarization of his invention. Thus I take Wittgenstein to be knowledgeable of both phonautographs and gramophones, and that in choosing to mention the gramophone, rather than the phonautograph, he means to refer to the process of *producing* sound from the lines on the gramophone record.

— Also, prior to mid-1914, in the pre-war *Notes on Logic*, Wittgenstein had worked out a view about the relationships between propositions, signs, and symbols. The pre-war view is shown on Figures 2A and 2B (reproduced from Sterrett 2006). So, he already had that much, well before the insight in Autumn 1914: i.e., he had already said that the correspondence between a propositional symbol and reality depends on the simples that the symbol contains, and 'that a certain thing is the case in the symbol says that a certain thing is the case in the world'. He had written, regarding propositional signs, that 'if an  $x$  stands in the relation  $R$  to a  $y$  the sign " $xRy$ " is to be called true to the facts and otherwise false'. He had written, regarding the human skill of understanding propositional signs, that 'I understand the form " $xRy$ " when I know that it discriminates the behavior of  $x$  and  $y$  according as these stand in the relation of  $R$  or not'. And, regarding propositional truth functions: 'In two molecular functions that have the same T-F schema, what symbolizes must be the same.'

So he already had that much; what happens after the crucial insight in Autumn of 1914 gets developed?

One thing to take note of and reflect upon is that Wittgenstein focuses on pairs of seemingly dissimilar representations: ‘At first sight a proposition—one set out on the printed page, for example—does not seem to be a picture of the reality with which it is concerned. But neither do written notes seem at first sight to be a picture of a piece of music, nor our phonetic notation (the alphabet) to be a picture of our speech.’ (4.011) Now, notice: He does not appeal to examples in which similarity is based on visual or geometrical similarity. That’s very important. It is often missed.

— In the *Tractatus*, as depicted in Figure 1B, the lines on the gramophone record, and the musical notation of the symphony score, which Wittgenstein describes as two things which ‘appear to be very different at first’, are shown to ‘stand in the same internal relation’ of depiction, which is what having the same logical form amounts to. (Sterrett 2006; 216) His account of having the same logical form involves processes that result in a musical performance: the musician’s abilities in being able to ‘obtain the symphony from the score’ and the ability to employ a process that likewise yields the symphony from the lines on a gramophone record. This is what having the same logical form amounts to: translatability, though by no means a direct correspondence between points on the gramophone lines and notes in the symphony score.<sup>12</sup>

It’s worth emphasizing here again that Wittgenstein did not appeal to the geometric characteristics of the lines on the gramophone record, even though, in his day, the patterns that the lines that a musical performance recorded on a gramophone disc or roll made were often appreciated as two-dimensional drawings (such as magnified traces of wavy lines made by a phonograph needle used to record voices and other sounds. Likewise, in physics, Mach’s famous schlieren photographs capturing shock waves visually were widely reproduced and had become part of popular and artistic culture.) The gramophone example is used to make a point about propositions: ‘A gramophone record, the musical idea, the written notes, and the sound-waves, all stand to one another in the same internal relation of depicting that holds between language and the world’. [T 4.014] What they all have in common, though, he says is ‘logical structure’ [Ogden translation]

If geometric or visual similarity is not what Wittgenstein appeals to in explaining that the musical score and the lines on a gramophone record have the same logical form, what does he appeal to? Intertranslatability via serial processes. The processes he appeals to include ones that involve skill, training, and conventions about notation, as well as some mechanical processes. This is, I think, a very important thing to notice. It does not mean

12 There are a number of other relevant points associated with Figure 1B discussed in ‘Pictures of Sounds: Wittgenstein on Gramophone Records and the Logic of Depiction’ (Sterrett 2005)

that those spatial relations or visual similarity do not play some role in the processes of translation, but the account of logical form is not in terms of, and certainly not reducible to, them. Here I suspect Wittgenstein is following Frege in thinking that it is the notion of translation, rather than the notion of interpretation, that is relevant in understanding logical form. In his criticisms of formalism in mathematics, Frege argued against the use of uninterpreted formulae in mathematics and logic. (Sterrett 1994) (We are not always careful in distinguishing the terms; for Frege, translation is from one meaningful entity to another; interpretation, as the formalists meant it, was from one uninterpreted statement to an interpreted one.)

How is the account of logical form that appears in the discussion of the gramophone in the *Tractatus* related to the experience of reading about a miniature setup used in a courtroom to portray something about a traffic accident?

## Models in a Nexus of Fault and Responsibility

It would be nice to know a little more about how the miniature setup of the traffic accident was discussed in the magazine or newspaper that Wittgenstein read; what kind of evidence was the miniature setup supposed to provide? The setting was a law-court, not a scientific laboratory or even a forensic one. The miniature automobiles involved in the setup are often referred to as ‘toys’ by commentators on Wittgenstein, though I am not aware that Wittgenstein ever did so in his *Notebooks*.

The miniature cars involved may well have been regarded as toys by some, but we have seen how exquisitely detailed technically many of them were. We have seen that in the late nineteenth and early twentieth century, scale models that were serious affairs and scaled to be used as experimental models for particular scientific research or forensic investigative purposes were often called toys, too. We have seen that modelmaking combined art and science, and that by 1914 there were modelmaker hobby clubs and ‘modelmaker’ was a skilled profession in the UK and the US—and that these kinds of miniature models with exquisite technical detail were known in Europe as well. Even rigorously scaled models were sometimes made to be aesthetically pleasing as well as being precision pieces of machinery. Modelmakers of such charming models were known to protest that calling their productions toys failed to do justice to the craftsmanship, knowledge, and precision required in order to produce properly scaled behaviors. Different materials had to be used to provide appropriately scaled densities and flexibilities; surfaces had to be modified to give appropriately scaled mechanical behaviors. So I think one point to keep in mind is that someone with Wittgenstein’s knowledge and interests in aeronautical engineering, in which precision scale models were absolutely essential, could hardly suppress knowledge of the logical and

mathematical basis for using scale models in physics, when viewing such a miniature setup.

There are some cultural and ethical aspects to the significance of such a court case around 1914, too.

First, the issues of the burden of proof for proving fault in automobile accidents, and whether injury and death caused by automobile accidents should be covered under criminal law or not, were still undergoing change and clarification. There were even questions of ethics involved as to what kinds of considerations were relevant in applying the existing legal doctrines to the situation of automobile accidents (e.g., consideration of risk-spreading; role of ownership, role of vehicle being under one's control, role of negligence). (Deak 1931) This might be something to keep in mind with respect to Wittgenstein's later remark that the most important point of the *Tractatus* was an ethical one—what it did not say.

Secondly, it is also significant that, in 1914, an important revolution in the use of physical evidence in court cases that would set the agenda for methods used in forensic investigation to this day, was just beginning. The Frenchman Edmond Locard, a protege of Bertillion who claimed to have used the fictional Sherlock Holmes as his inspiration and guide, had just been given a laboratory in Lyon (France) in 1912 in rooms attached to the courthouse, for such scientific investigations. The question of what kind of physical evidence could be admitted, and what it could be used to prove, was of interest to the public, as it hadn't really been settled yet. Other laboratories were established based on Locard's methods: first in 1914, there was one in Quebec (Cimon 2014); many others followed. Locard is known best for the methods he developed and disseminated using the microscope for making minute distinctions, such as between many different kinds of dust particles and, following his teacher Bertillion, for the use of various biometrics for all sorts of imprints a person might leave behind. (Berg, 1970) However, Locard was also very much interested in collisions; in his laboratory in Lyon he worked on detecting cause and fault in automobile collisions: what did the evidence left behind from an automobile collision, such as skid marks left by tires, tell people about the collision that had taken place? This is a matter of reading the collision from the skid marks, but in a courtroom, one would also want to show how the skid marks could have been created by a certain sequence of events that was the fault of one of the drivers. Could one and the same model have served both to illustrate something such as who had the right of way and also to prove that skid marks (lines) left on the road could be translated into a certain sequence of events?<sup>13</sup>

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13 Here there is a very close analogy between the lines on the gramophone record that can be used to reproduce a symphony performance with some, but not perfect, fidelity, and the lines on the road that can be used to reproduce the scene of a traffic accident with some, but not perfect, fidelity.

Referring again to the illustration in the magazine article I found showing a personal-injury lawyer seated at a table on which a large piece of paper covering the entire tabletop has been lain: note that the outlines of the roads leading into an intersection are sketched on the paper. Five ‘miniature’ vehicles are on the table; although referred to as ‘miniatures’ in the article, they are large miniatures: most of the automobiles must be at least the size of a breadbox, it appears to me, and they look quite detailed. There are several doll occupants in the vehicles, and they seem arranged with care, in different postures; some are unprotected, their vehicles being open like a convertible. One three wheeled vehicle is toppled. The account says that the lawyer is ‘studying a case to place the responsibility for the accident’ and to get ‘a clear idea of the different phases’ of it. We are told that he acts out ‘the whole occurrence’ so that ‘the questions of right of way, traffic regulations, rules of the road, and such matters’ are made clear. The lawyer also uses the model to communicate: ‘Thus equipped, he is able to place his case lucidly before the court.’ (Popular Science 1914) This account seems to fit with Wittgenstein’s mention of dolls (puppen); it is the injury to the humans that is of most importance to the personal injury lawyer. This account also fits well with von Wright’s description that ‘At the trial a miniature model of the accident was presented before the court. The model here served as a proposition; that is, as a possible state of affairs.’ (von Wright n.d, p. 21)

One striking (to me<sup>14</sup>) thing is the context of this ‘found object’ (the model of a traffic accident): a court of law. Much of what the lawyer wants to present using the model involves conventions and, especially, violations of ‘traffic regulations’ and ‘rules of the road.’ The physical aspects of the model are surely part of judging whether there have been violations, as well as in determining the sequence of events that led to an injury, and to how the injury was caused. But whether there have been traffic violations, and who had the right of way, involves rules and conventions as well. In the *Notebooks*, in following up on his thoughts about a proposition as a picture, Wittgenstein remarks that a picture might be used to portray how not to fence. (Wittgenstein 1979, NB 5 November 1914 entry) The model might be used to portray a violation of a traffic rule, or it might be used to portray a state of affairs that did not occur, say, in showing negligence, to show what would have happened (a possible state of affairs) had a driver acted otherwise than he or she did.

Another striking thing in the account of the model of a traffic accident in this magazine article is the mention of the dynamics of the model: ‘the different phases’; ‘the whole occurrence’, which draws attention to the miniature model of the traffic accident as a dynamic model. There is, after

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14 I mentioned it at the end of Sterrett (2000) ‘Physical Pictures: Engineering models circa 1914 and in Wittgenstein’s *Tractatus*; long version at <http://philsci-archive.pitt.edu/661/1/Sterrett-UNC-CH-PPTalk2.pdf> As for the more substantial content of the talk, the content in Sterrett 2006 supersedes that talk.).

all, a vehicle that has been overturned, and one that is in the process of turning a corner. Certainly the way the lawyer is using the model is, at first, investigatively, or experimentally, to examine the situation and the possible ways it might have developed to yield the outcomes known to have occurred, and the possible ways it could, counterfactually, have developed.

As I explained in my book, what I see in the *Tractatus* is an account of how propositional sign, truth function, and world are related that looks very much, even in details, like an analogue of the account of using model experiments—e.g., ships, aeroplanes, propellers—to represent actual or imagined ships, aeroplanes, and propellers circa mid-1914. Actually, the methodology used—physically similar systems—is very general. The quote from Hertz' preface that the form we give our images in thought is such that 'the necessary consequents of the images in thought are always the images of the necessary consequents in nature of the things pictured'<sup>15</sup> is often cited in connection with Wittgenstein's *Tractatus*, but I do not think Hertz meant to be saying anything novel with that statement in the preface; statements to that effect are quite common in nineteenth century physics. The idea that one can formulate a picture or model—a concrete physical setup as well as an imagined or mathematical one—and set up a correspondence between them such that the consequents of manipulating quantities in the model that correspond to the thing modeled are the corresponding consequents in the thing modeled was also quite common. When it was an equation rather than a physical model, and the consequent a matter of mathematical deduction, Hertz' statement would fit, too. The use of dimensionless parameters as a criterion for this kind of similarity between two physical systems—i.e., similarity of systems S and S' (which is the terminology used to describe the relationship between a model being tested experimentally and the thing it modeled) exists when the relevant dimensionless ratios formed from the corresponding quantities in the two systems are equal—was also developed in physics in the second half of the nineteenth century. What I often found, though, was that mathematicians, physicists or engineers writing about similar systems and similarity would often comment that the methods were not well enough known, that they were powerful and elegant and that there was much to be gained by adopting them. (Sterrett 2017a)

## Experimental Models and Measurement

What happened in July 1914, with the 'Physically Similar Systems' short communication (Buckingham 1914) was significant, though, in that the method was generalized so that it no longer involved deriving the required

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15 Quoted in David G. Stern's *Wittgenstein on Mind and Language*, p 37, from Heinrich Hertz: *The Principles of Mechanics*, Tr. by D.E. Jones and J.T. Walley. (Dover, New York 1956)



criteria from an equation that described the phenomenon. Rather, similarity criteria (the dimensionless ratios that must have the same value in each of the two systems (model and thing modeled)) could be derived from the ‘most general form’ of a physical equation, which contained no arithmetical constants. The most general form of a physical equation was written using the notation of functions. This often sounds not really possible; where does the information come from, if not from an equation of physics such as a partial differential equation? The reason it is possible is due to what is built into the system of measurement (as explained in Sterrett 2009; 2017a; Sterrett forthcoming b). It is the July 1914 formulation of similarity between physically similar systems as a methodology of using model experiments, that I use to draw the analogy shown by comparing Figure 3, below, with Figure 4 (above); the analogy is between experimental models and propositions in the *Tractatus*, respectively.

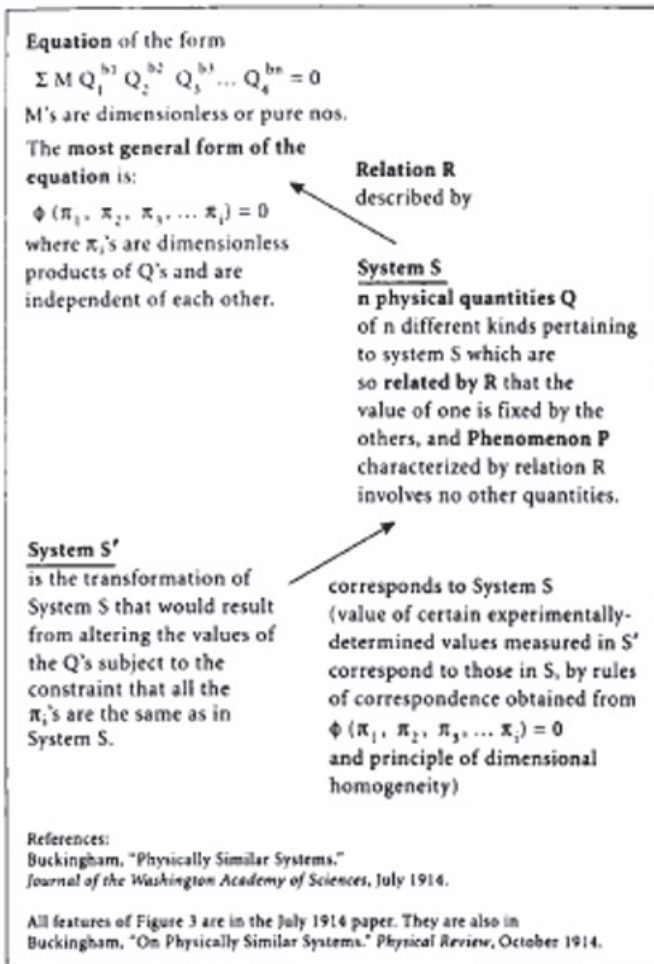


Figure 3 Empirical equations and experimental models—Buckingham 1914.



Beyond exhibiting the sketches in Figures 3 and 4 from my book here, I am not going to lay that analogy out again in this talk, as it is given in my book. I'd like to point out, though, some of the historical and biographical details supporting this suggestion. Here are just a few such details: Most saliently, the topic of similarity in science and engineering was prominent in the years immediately preceding 1914, and the short communication 'Physically Similar Systems' (Buckingham 1914) came out when Wittgenstein was already back from Norway, and staying in Vienna, where access to scientific news and literature was excellent. A timeline in my 'Physically Similar Systems: a history of the concept' (Sterrett 2017a) shows the intensity of publications related to similarity throughout 1914. I cite lots of other supporting details in the book. Another one quite close in time to the 1914 insight was that the use of mechanical similarity was cited in a Nobel Prize Lecture given in December 1913 that received wide coverage in the Press, including cartoon caricatures of the Nobel Laureate, Heike Kamerlingh Onnes, as 'Dr Zero' in newspapers and magazines (the Prize was for achieving the liquefaction of helium). Wittgenstein was in Vienna during that time period, too; even though he had been in Norway in 1913, he came back to his family home in Vienna for Christmas of 1913. Onnes had helped derive a more general 'theory of corresponding states' in physical chemistry than van der Waals' initial version, and cited Newton's theory of mechanical similarity with awe. Wittgenstein could hardly have missed the association of Onnes' work with model experiments, as Newton and, to some extent, Galileo, were often cited in the scientific and engineering literature on using experimental models as the first to use and write about similitude. With regard to the homage to Newton, as I have explained above and note in my book (Sterrett 2006), the recently discovered fact that Wittgenstein purchased exactly the two works by Newton and Galileo that were cited in the literature on dynamic similarity and physically similar systems seems to indicate an awareness of the kinds of allusions Onnes and others made regarding the theoretical foundation for similarity in physics.

### Models, Physically Similar Systems, and the *Tractatus*

These historical and biographical facts are merely supportive, though, as opposed to propelling me towards the conclusion initially: my main reason for thinking that the methodology of physically similar systems, which by the time of Wittgenstein's reading of the magazine article in September 1914 had just been presented in the short communication 'Physically Similar Systems' (July 1914), is in fact the analogy itself that holds between the account of how models portray in it, and the account of a proposition given in the *Tractatus*. In particular, the 'no logical constants' principle that Wittgenstein referred to as the Grundgedanke of the *Tractatus* has a clear analogue in the account (i.e.,

equations in science that contain arithmetical symbols are replaced by ones that do not contain any such connectives, by employing functional notation). Most significantly, the analogy yields an account of objects that I find aligns perfectly with the statements in the *Tractatus* about objects and facts composed of objects, sans logical constants. Whereas the methodology of experimental models speaks of the ‘most general form of a physical equation’ as containing no algebraic constants, Wittgenstein writes of the ‘general form of a proposition’ containing no logical constants.

— Whereas, in the dimensional equations used in Buckingham’s July 1914 ‘Physically Similar Systems’ paper, dimensions or quantities combine in only certain ways to form dimensionless parameters, in the *Tractatus* we are told that objects combine in only certain ways to form states of affairs’.

I see the way objects function as completely analogous to the way that dimensions do.

One thing that is not shown on the figures in my book is how the elements in the model correspond to the elements in reality. This is very straightforward, although implicit: since the similarity of the two systems is a matter of certain key dimensionless parameters (ratios) having the same value in the model as in the thing modeled, one can simply show the correlation between model and thing modelled from those ratios alone. To take an easy case, consider Mach number, a degenerate case<sup>16</sup> of a dimensionless parameter: (velocity of a moving body  $v$ ) / (velocity of sound in the fluid at the fluid conditions that obtain  $v_s$ ). Suppose we have a case in which similarity is established by the Mach number being the same in the model as in the thing modelled (again, a degenerate case). Then, letting  $v$  depict the velocity in  $S$  and  $V$  depict the velocity in  $S'$ , we can say that  $v/v_s = V/V_s$ . We can then say that the velocity  $v$  corresponds to the velocity  $V v_s/V_s$ ; this gives the model its ‘feelers’, which shows exactly how the velocity in the model corresponds to the velocity in the thing modeled. Measuring one of these two velocities can be used to tell us what the other, corresponding, velocity is. With this in mind, we can make good sense of the following statements in the *Tractatus* (Wittgenstein 1974):

2.1511 That is how a picture is attached to reality; it reaches right out to it.

2.1512 It is laid against reality like a measure.

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16 I use here the simple case of Mach number, which I called a degenerate case of a dimensionless number, to illustrate how the corresponding quantities can be identified from the dimensionless ratios, to keep the calculation simple. A clear nontechnical description of ‘degenerate’ is ‘In mathematics, a *degenerate case* is a limiting *case* in which an element of a class of objects is qualitatively different from the rest of the class and hence belongs to another, usually simpler, class.’ (*Wikipedia* 26 January 2018) Mach number is a degenerate case of a dimensionless ratio in the sense that the only kind of quantity it contains is velocity, and hence is a limiting case of dimensionless ratios, which can contain many different kinds of quantities.

2.15121 Only the end-points of the graduating lines actually touch the object that is to be measured.

2.1513 So a picture, conceived in this way, also includes the pictorial relationship, which makes it into a picture.

2.1514 The pictorial relationship consists of the correlations of the picture's elements with things.

2.1515 These correlations are, as it were, the feelers of the picture's elements, with which the picture touches reality. (Wittgenstein 1974)

And, as for the statements following just after the above lines in the *Tractatus*, the ones about the picture having something in common with what it depicts: clearly, though we do not need to be using the same units in the model and what it models, the systems of measurement need to have some things in common (e.g., we need to be using the same system of measurement between the model and the thing modelled (not necessarily the same system of units, but of the same system of measurement) in order to use this method to construct a model that is able to picture what it models. (Sterrett forthcoming b) So, that makes sense too. (Exactly what they must have in common is, I think, part of the investigation in the *Tractatus*.)

### Who Can Understand the *Tractatus*?

While I don't want to repeat the arguments in the book here, I would like to point out that the analogy I laid out in the book (depicted by the juxtaposition of Figures 3 and 4) addresses what I think is a common worry about what's known as Wittgenstein's 'Picture Theory'. The worry, I think, is that just knowing that the elements of a picture correspond to elements in reality doesn't yield enough to guarantee that the picture will track reality. 'Having the same logical form' just seems too scanty a basis to most people, I suspect. Then, there is the problem with the point that, as Wittgenstein says, 'The possibility of propositions is based on the principle that objects have signs as their representatives.' I think readers are bound to ask how this is supposed to be guaranteed, too.

I consider some of these worries to be genuine worries about endorsing what commentators call the Picture Theory—at least the Picture Theory as it is often understood. I don't think it is very easy for a reader of the *Tractatus* to understand how the proposition as a picture is supposed to account for what it purports to account for in any rigorous way. In fact, I think Wittgenstein knew others weren't going to understand his point, yet, that he felt that what he wrote was correct. He did, after all, write in the preface that, although he wasn't sure he had accomplished the task of expressing the thoughts expressed in the book very well, that 'the truth of the thoughts that are here communicated seems to me unassailable and

definitive'. (Wittgenstein 1974, pgs. 3–4) I'm going to go with that line: Wittgenstein didn't count on anyone being able to understand the thoughts he tried to express in the *Tractatus*, yet he thought the truth of those thoughts was 'unassailable and definitive'.

I find that the key to making sense of the thoughts he attempts to express in the statements in the *Tractatus* about objects, states of affairs, and propositions is to recognize that his account draws on the existence of quantitative science, i.e., the existence of measuring systems and equations that express relationships between measured quantities. It is in the design and standardization of systems of measurement—which, in a coherent system of measurement, include a connection to reality, as a coherent system of measurements<sup>17</sup> requires that the units that have different dimensions associated with them be 'coherently' related to each other, which involves establishing physical relationships; as a result, the relationships between dimensions (kinds of quantities) are formalized. Since I see dimensions as analogous to objects, this explains many of the otherwise inscrutable claims about objects we find in the *Tractatus*.

Again, the historical and biographical details are supportive of my suggestion. First, there is the context that, in 1914, many physicists and engineers would know what a dimension was, and would be quite competent in using dimensional equations. They would consider it quite natural to think of combining dimensions, which can be done without any arithmetical connectives, and which come into play when expressing a dimension in terms of combinations of others. I say this because significant debates on the topic of which units should be used in physics were still in very recent memory in 1914; and these debates required the language of dimensions. In fact, Hertz had entered the debate with a very philosophical argument; Jed Buchwald discusses it in his book *The Creation of Scientific Effects* (Buchwald 1994, Chapter 12) In his argument, Hertz uses the notation of dimensions, i.e., he writes  $ML^2T^{-2}$  to indicate the dimensions of the units of work; M, L and T denote respectively the dimensions Mass, Length and Time.

I think of a dimension as a kind of quantity. But—and this might have been difficult for even scientifically trained commentators and readers of the *Tractatus* coming upon it after 1930 or so to imagine—not only the system of units, but the issue of how many basic units were needed in order to be able to do physics, was in flux in the late nineteenth century. There were the basic units of mass, length, and time, as in Newton's day, but there was the new question of how to handle units for measurements made of quantities regarding electricity and magnetism. It was easy enough to define units of each, in terms of a laboratory procedure involving an

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17 There are two characterizations of coherence of a system of measurement; this is one of them. I discuss the topic at length in Sterrett forthcoming b ('Relations Between Units and Relations Between Quantities.')

electrical or magnetic pole. But, it was impossible to answer: ‘Which is more basic: an electrical pole or a magnetic pole?’ Contradictions arose no matter which system of units was preferred; in addition, many additional units were added and adopted, without increasing the number of basic units, because they were more practical to use. Some argued that three basic units (mass, length and time) were sufficient. It wasn’t until 1901 that the Italian Giovanni Giorgi showed that by adding a fourth basic unit, and hence admitting a fourth dimension (a fourth basic kind of quantity) to the system of units, that the global physics community could solve the problem in an especially desirable way, in that the resulting system of units would not conflict with the use of the practical units already used in everyday technological and laboratory work. In 1914, though, these had not yet been adopted formally. The topic was still live, and so was the language that was then considered the language of science: dimensional analysis. And, we do see Wittgenstein bring up measurement, as in his statement quoted above, that a proposition is laid against reality like a measure.

Secondly, I don’t think Wittgenstein says nearly enough to explain what’s needed to the reader who does not know very much about model experiments, dynamical similarity, and similar systems. In his defense, someone writing in 1914, which I have called ‘The Year of Physically Similar Systems’ (Sterrett 2017a), coming on the heels of Onnes’ fame, might assume that the whole family of similarity concepts had finally won the day in physics and were going to be as common as the notion of gravity from now on. That is what Boltzmann foresaw (Sterrett 2006, p. 113; Boltzmann 1974). Sadly, the opposite happened and the war seems to have disrupted collective memory about them.

Also, the arguments about the basis for measurement in the new physics, and the role of measurement standards in physics, had basically been made. It is true that, in 1914, it would still be awhile before the solution Giorgi proposed around 1900/1901 was eventually adopted by the international agencies charged with deciding such things—but the debates that delved into the fundamental questions of measurement in electromagnetism, were over. So, even though there would still be active discussion of them in 1914, and the language of dimensional analysis would then still be quite well known, the occasions for using it in debates in which the question of how many different dimensions were needed was a live question were fewer and fewer. The result is that we philosophers are put in a deficient position with respect to understanding comments about measurement and modeling unless we are willing to go back and learn what physics was like in 1914—and I don’t mean current reconstructions of what was known in 1914 phrased in anachronistic terms.

So, I'd like to make a suggestion about understanding Wittgenstein's *Tractatus*, at least the parts of it associated with the so-called 'Picture Theory': I suggest that it might help if we as a philosophical community get to know the scientific milieu in which the *Tractatus* was conceived a little better, including the language and methods of physics of the day. Especially, the language and methods, including systems of measurement, of the (physics) logic underlying the use of model experiments.

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## ONTOLOGY AND SEMANTICS: AN ANTI-REALISTIC READING OF THE *TRACTATUS*

**Abstract.** *According to the received view, the Tractatus would present a realistic conception of the meaning of a declarative sentence: that meaning would be explained in terms of evidence-transcending, not epistemically-constrained, truth-conditions. In this paper, I make a case against such a contention. If states of affairs are identified with possible combinations of phenomenal objects, the truth-conditions of an elementary proposition inevitably collapse onto its assertability-conditions: the existence of the state of affairs depicted by the proposition would be both the condition for its being true and, at the same time, the condition for our recognition of its being true. Moreover, the finiteness of logical space (the set of all phenomenal states of affairs) would ensure the decidability, in principle, of all meaningful propositions, and hence would preserve the general validity of the laws of classical logic. Lastly, the problem of the relationship between the overt verificationism of Wittgenstein's 1929–1933 writings and the Tractatus's ontological and semantic views, is dealt with.*

### 1. Introduction

Two radically opposite answers have been given to the question: how should the position of the *Tractatus* be assessed with respect to the controversy between realism and anti-realism in semantics, framed in the terms set out as standard by Dummett's investigations on the topic? Dummett himself was resolute in putting the *Tractatus* on the side of semantic realism: 'A verificationist theory of meaning differs radically from the account of meaning as given in terms of truth-conditions implicit in Frege's work and explicit in Wittgenstein's *Tractatus*. On a theory of the latter kind, the crucial notions for the theory of meaning are those of truth and falsity: we know the meaning of a sentence when we know what has to be the case for that sentence to be true.'<sup>1</sup> Some years later, Dummett made the same point as follows: '[Knowledge of the content of an assertion], as the tradition of Frege, the *Tractatus* and Davidson would have it, is a grasp of what would

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1 Dummett (1978, p. 379).

make such an assertion true, independently of whether we have any means of determining that it does or does not obtain.<sup>2</sup>

Dummett's interpretation has been received wisdom from the 70s onwards. Influential philosophers like Kripke have substantially shared it. What Kripke calls 'the simplest, most basic idea of the *Tractatus*' is presented by him as follows: 'a declarative sentence gets its meaning by virtue of its truth-conditions, by virtue of its correspondence to facts that must obtain if it is true', independently of any consideration of the conditions which entitle the speaker to assert it, and of the role the practice of assertion plays in our form of life.<sup>3</sup> In the *Cambridge Dictionary of Philosophy*, the same assessment of the position of the *Tractatus* in the development of semantics is made by Lepore: 'Verificationism ... differs radically from the account that identifies meaning with truth-conditions, as is implicit in Frege's work and explicit in Wittgenstein's *Tractatus*.'<sup>4</sup>

At the other, opposite side of the story, early logical positivists were the first to read off from the *Tractatus* a verificationist, and hence a strongly anti-realistic, conception of sentential meaning: the understanding of a sentence would consist in the knowledge of an empirical method to determine, at least in principle, whether the sentence is true or false (an empirical method of decision). There is plenty of textual evidence for the attribution of that interpretation of the *Tractatus* to logical positivists.<sup>5</sup> It is crystal clear and, at the same time, remarkable, that logical positivists plainly construed what is usually considered the manifesto of the truth-conditional model of sentential meaning, i.e. section 4.024 of the *Tractatus* ('To understand a proposition means to know what is the case if it is true') in a verificationist spirit. For logical positivists, verificationism was nothing but a mere gloss on the above formulation of the truth-conditional conception of meaning. More recently, other authoritative Wittgenstein scholars, like Hacker and Glock, have maintained that the *Tractatus* was actually committed to empirical verifiability as the criterion for sentential meaning, although both make a distinction between the acceptance of such a criterion and the endorsement of the principle of verification, as it was understood by the members of the Vienna Circle and, though with some caution, by Wittgenstein himself in the years 1929–33.<sup>6</sup>

Given that background, there are three themes I want to deal with in this paper. First, if the distinction between realism and anti-realism is traced in

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2 Dummett (1991, p. 102).

3 Kripke (1982, p. 72).

4 Lepore (1995, p. 834).

5 See, among many others, Carnap (1936–1937, I, § 2) and Waismann (1967, Anhang B, § 6).

6 See Hacker (1986, pp. 138–40), (1996, p. 53) and Glock (1996, p. 382).

the terms familiar since Dummett's work, the main problem which we have to tackle is: are the *Tractatus* truth-conditions of a proposition to be conceived of as transcending the speaker's capacity to recognize whether they obtain or not? In other words: are the *Tractatus* truth-conditions of a proposition evidence-transcending? Second, if—as I am going to suggest—the *Tractatus* truth-conditions of a proposition are to be understood in an anti-realistic way, is the further claim justified that knowing the truth-conditions of a proposition amounts to knowing a method of decision (in principle) of its truth-value? Third, is the appeal to the verification principle (to understand a proposition is tantamount to knowing how the issue of its truth or falsity is to be decided), which characterizes Wittgenstein's writings of the early Thirties, just an explicit formulation of the *Tractatus* conception, albeit a formulation that cannot be found in those very terms in the *Tractatus*, or is there something new in the views he put forward in those years? Sections 2 of the paper is devoted to give an answer to the first two questions, section 3 to the last question.

## 2. Semantic Anti-Realism and Phenomenalistic Ontology

Let us suppose that the facts into which the world divides (TLP 1.2) are obtaining combinations of phenomenal objects (for instance, obtaining combinations of a phenomenal colour, a visual place and a moment of phenomenal time, i.e. existing colour-spot-moments). This implies that states of affairs should be conceived of as possible combinations of those phenomenal objects or, equivalently, as phenomenal complexes whose components are those phenomenal objects. In my interpretation, the *Tractatus* ontology would be, according to Nelson Goodman's classification and terminology, a realistic system, where 'realistic' is opposed to 'particularistic': objects would be phenomenal qualities, or qualia, and hence, from a metaphysical point of view, they would belong to the category of abstract universals. In a particularistic system, on the contrary, concrete spatially and temporally bounded particulars, be they either sense-data or phenomenal events, are taken as basic units<sup>7</sup>. An obtaining state of affairs would be a concrete instantiation of each one of the phenomenal universals, or qualia, which are its components. Accordingly, an elementary proposition should be conceived of as a combination of the names of the phenomenal components of a corresponding state of affairs: each name stands for, is proxy for, is representative of (in the original German text: *steht für, vertritt*) one constituent of the state of affairs, one object, and the elementary proposition as a whole represents (in the original German text: *darstellt, vorstellt*) or

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<sup>7</sup> It is worth noting that the ontological opposition realistic system/particularistic system in Goodman's sense has nothing to do with the controversy realism/anti-realism in semantics. See Goodman (1951, pp. 142–5).

depicts (in the original German text: *abbildet*) their possible combination, that is, the state of affairs.

Of course, here I will not go into the exegetical and theoretical justification of my reading of the *Tractatus* ontology (logical atomism).<sup>8</sup> What matters for us are the consequences of our ontological hypothesis, as far as the realism/anti-realism controversy is concerned. As section 4.024 of TLP says, one understands an elementary proposition if one knows what is the case if the proposition is true. As an elementary proposition is true if, and only if, the state of affairs it depicts obtains, is a fact, one understands an elementary proposition if, and only if, one knows what state of affairs it depicts (the state of affairs it depicts is what is the case if the proposition is true). This knowledge amounts to the knowledge of the truth-conditions of the proposition, because it is exactly the obtaining of that state of affairs that is the condition for its truth: if *that* state of affairs obtains, the proposition is true, and if the proposition is true, that state of affairs obtains.

Now, if a state of affairs is of a phenomenal nature, as we are supposing it is, speaking of truth-conditions of an elementary proposition, whose fulfilment or unfulfilment we could be unable in principle to recognize, would have no sense at all. Within the phenomenalist framework, the existence of the state of affairs depicted by an elementary proposition is, at the same time, the condition for its being true *and* the condition for us to recognize that it is true. For instance, if the presence of a colour-spot-moment in my visual field is the condition for the truth of the elementary proposition that represents it and asserts that it obtains, then I am always able in principle to establish whether that truth-condition is fulfilled or not: visual experience enables me to settle the question. The truth-conditions of an elementary proposition do not transcend the evidence because their being fulfilled, or not, can always be recognized by the speaker. Even though the use of Dummett's jargon with reference to the *Tractatus* could sound anachronistic, we could safely say that our ontological hypothesis makes the truth-conditions of an elementary proposition coincide with its assertability-conditions: the fulfilment of the former is *eo ipso* the fulfilment of the latter. As a consequence, no difference can be traced between knowing that so-and-so is the case if *p* is true (knowing the truth-conditions of *p*) and knowing how to determine whether so-and-so is the case (knowing the conditions for ascribing truth to *p* or, equivalently, for asserting *p*): there is no conceptual room for a notion of truth-conditions of an elementary proposition whose fulfilment we could be unable in principle to ascertain<sup>9</sup>. For that reason, the adoption of the Principle of Bivalence for elementary propositions (what Wittgenstein calls 'bipolarity') does not entail

8 For an overall and articulate presentation of this interpretation of the ontology of the *Tractatus*, and of the exegetical and theoretical reasons backing it, see Frascolla (2004, 2007, 2010).

9 Contrary to Marconi's opinion in his (2002b, p. 4).



any endorsement of the classical, not evidence-constrained, conception of truth: an elementary proposition is decidable in principle and thus is not determinately true or false independently of our capacity to establish which one of the two cases holds. Every elementary proposition is either true or false, but only in the narrow, epistemically constrained, sense that it is, in principle, either recognizably true or recognizably false.

The extension of the anti-realistic conception of the truth-conditions from the case of elementary propositions to all meaningful propositions is straightforward, given the *Tractatus* identification of the latter with the truth-functions of the former (TLP 5). It is expedient, however, to deal separately with the case of a truth-function that is constructed out of  $n$  elementary propositions by means of sentential connectives, and the case of universally and existentially quantified propositions. Only in this way, the problem of the finiteness of the domain of objects and of the domain of states of affairs will emerge in connection with the adoption of the anti-realistic conception of the truth-conditions of propositions.

Let us consider, first, a proposition  $\alpha$  that is an arbitrary truth-function of  $n$  elementary propositions  $p_1, p_2, \dots, p_n$ , and let us sum up the procedure by which it is constructed out of  $p_1, p_2, \dots, p_n$ . Following Wittgenstein, a truth-possibility of  $n$  elementary propositions  $p_1, p_2, \dots, p_n$  is an assignment either of Truth (T) or of Falsity (F) to each one of them. A truth-possibility of  $n$  elementary propositions  $p_1, p_2, \dots, p_n$  corresponds to a combination of the obtaining and non-obtaining of the states of affairs depicted by the elementary propositions  $p_1, p_2, \dots, p_n$ . For every  $i$  such that  $1 \leq i \leq n$ , let  $S_i$  be the state of affairs depicted by the elementary proposition  $p_i$ ; if, in a given truth-possibility of  $p_1, p_2, \dots, p_n$ , the elementary proposition  $p_i$  has been assigned Truth, then we take the state of affairs  $S_i$  as obtaining; if  $p_i$  has been assigned Falsity, then we take the state of affairs  $S_i$  as non-obtaining. Given  $n$  elementary propositions  $p_1, p_2, \dots, p_n$ , a proposition  $\alpha$  can be constructed by expressing either agreement or disagreement with each one of the truth-possibilities of  $p_1, p_2, \dots, p_n$ , and hence with each one of the combinations of the obtaining and non-obtaining of the states of affairs  $S_1, S_2 \dots S_n$ . The related sign procedure consists in coordinating T (Truth) to each truth-possibility with which agreement is expressed, and F (Falsity) to each truth-possibility with which disagreement is expressed (in the *Tractatus* original notation, no sign is coordinated to the latter truth-possibilities).

This is the way Wittgenstein presents the semantics of the so-called (not by him) molecular propositions, that is, propositions generated by means of the usual sentential connectives from a set of  $n$  elementary propositions  $p_1, p_2, \dots, p_n$ . The truth-conditions of such a proposition  $\alpha$  are fulfilled if, and only if, one of those combinations of the obtaining and non-obtaining of the states of affairs  $S_1, S_2 \dots S_n$  for which  $\alpha$  is true, is realized in the world. Since for every  $i$  such that  $1 \leq i \leq n$ , one can always ascertain, at least in principle,

whether  $S_i$  obtains or not, one can recognize whether the truth-conditions of  $\alpha$  are fulfilled or not by simply checking that circumstance for every  $S_i$ : thus, the truth-conditions of  $\alpha$  are not evidence-transcending. By putting things in a more usual way: if each one of the elementary propositions  $p_1, p_2, \dots, p_n$  is decidable in principle, as it happens according to our interpretation, then the truth-value of  $\alpha$  can mechanically be computed by means of its truth-table, once the truth-values of  $p_1, p_2, \dots, p_n$  have been established: thus  $\alpha$  is decidable in principle as well.

Without going into the details of Wittgenstein's treatment of generality, let us examine now the two simplest cases of quantified propositions. Suppose that the values of the propositional variable  $fx$  are elementary propositions; the proposition  $(x).fx$  is true only for that truth-possibility of the values of  $fx$  in which they all are true, i.e. only for that combination of the obtaining and non-obtaining of the states of affairs depicted by those values in which they all obtain, whereas the proposition  $(\exists x).fx$  is false only for that truth-possibility of the values of  $fx$  in which they all are false, i.e. only for that combination of the obtaining and non-obtaining of the states of affairs depicted by those values in which no one of them obtains. In both cases, the fact that all the elementary propositions that are the values of  $fx$  are decidable in principle is not enough to warrant the decidability in principle either of  $(x).fx$  or of  $(\exists x).fx$ . If there are infinitely many elementary propositions that are the values of  $fx$ , then: a) no finite number of positive outcomes of the checking for the obtaining of the states of affairs depicted by them can rule out the possibility that a negative outcome can occur later; b) no finite number of negative outcomes of the checking for the obtaining of those same states of affairs can rule out the possibility that a positive outcome can occur later. In both cases, one cannot rule out the possibility that we are not able in principle to settle the question whether the truth-conditions of the two propositions at issue are fulfilled or not.

The principle that there are no truth-conditions of propositions, whose fulfilment we could be unable in principle to recognize, can be saved only on condition of limiting to the finite the number of objects and of states of affairs. As known, both the problem of the number of objects and, as a corollary, that of the number of states of affairs, are sanctioned as pseudo-problems by the *Tractatus* criteria of meaningfulness (TLP 4.1272). Moreover, in TLP 4.463, the infinite logical space is spoken of, and in TLP 4.2211 the hypothesis that there are infinitely many objects and infinitely many states of affairs seems to be presented as conceivable. It seems to me that it is only by resorting to the distinction between the skeletal, schematic ontology, set out before the phenomenal nature of objects and states of affairs is recognized, on the one hand, and the full-blown ontology deriving from that recognition, on the other, that the matter can be settled.<sup>10</sup> If objects are identified with

10 For the distinction between the skeletal and the full-blown ontology in the *Tractatus*, see Frascolla (2007, Chapter 3, pp. 60–84). What Wittgenstein is reported to have said in

qualitative aspects of the phenomenal given, and states of affairs with those finite combinations of objects which are allowed by the internal properties (by the form) of the latter, then the limitation to the finite comes up as quite natural, even though it is only the application of logic that can respond to the question of which phenomenal qualities play the role of objects. The number of discernible qualitative aspects of phenomena in each sense realm is surely finite, and thus the number of all those finite combinations of objects that constitute phenomenal states of affairs or complexes is finite as well. I cannot go into this theme here, but some relevant specifications can sketchily be made in order to back my statement: for instance, that no phenomenal object can occur more than once as a component of one and the same state of affairs, that neither two nor more phenomenal objects of the same form (phenomenal colours, for example) can occur in one and the same state of affairs, that phenomenal times are finite in number, because ‘at death the world does not alter, but comes to an end’ (TLP 6.431).

Lastly, it is worth noting that, according to my interpretation, the anti-realism of the *Tractatus* semantics does not make meaningfulness of a proposition depend on empirical circumstances such as the availability of a method of verification, and thus does not imperil Wittgenstein’s well known thesis of the independence of the semantic sphere from contingent matters of any sort.<sup>11</sup>

### 3. From the Anti-Realism of the *Tractatus* to the Strong Verificationism of the Early Thirties

In the framework outlined above, two questions can easily be answered. First, one can account for section 4.063 of the *Tractatus*, where Wittgenstein seems to overlook the crucial difference between truth-conditions of a proposition and conditions that justify predicating truth of a proposition, i.e. ascribing truth to it: ‘In order to be able to say: “*p*” is true (or false), I must have determined in what circumstances I call “*p*” true, and in so doing I determine the sense of the proposition.’ Here the sense of a proposition is not identified with the conditions for it to be true, but with the conditions for us to ascribe truth to it (to call it ‘true’). The latter (truth-ascription conditions) are the conditions that, if fulfilled, entitle the speaker to take the former (truth-conditions) as fulfilled, and thus the conditions that justify his assertion of the proposition. Thanks to our interpretive conjecture, what could appear as a failure on Wittgenstein’s part in acknowledging the difference between

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Wittgenstein (1980, p. 119) about the treatment of infinity as a number in the *Tractatus*, should call for an explanation as well. Be that as it may, whoever knows even just a little about how Wittgenstein deals with infinity in the *Tractatus* remains incredulous in front of that report and cannot help entertaining doubts about its accuracy.

11 This is my rejoinder to Marconi’s contention in his (2002a).

truth-conditions of a proposition and conditions for the ascription of truth to a proposition, reveals itself as the inevitable corollary of the collapse of the former onto the latter, brought about by the phenomenalist nature of the ontology on which the *Tractatus* semantics is founded.

The second question that can find a simple answer regards logic. How can the acceptance of the principles of classical logic peacefully coexist with the anti-realistic interpretation of truth-conditions I have extracted from the phenomenalist ontology of the *Tractatus*? The immediate answer is: they can coexist because meaningful propositions are decidable in principle and hence what holds of classical truth and falsity holds for recognizable, evidence-constrained, truth and falsity as well.

We come, finally, to the crucial question I want to deal with in this section of the paper, a question that cannot be by-passed. It can be put as follows: even if the phenomenalist interpretation of the *Tractatus* ontology is adopted, and its consequences on the semantic opposition between realism and anti-realism are consistently drawn, nonetheless a significant absence in the *Tractatus* should be accounted for. As we saw above, the opposition between a model of sentential meaning based on truth-conditions and a model based on assertability-conditions could have no room in the *Tractatus*: within the phenomenalist framework, truth is inevitably evidence-constrained, and truth-conditions, whose fulfilment the speaker could be unable in principle to recognize, are ruled out. In Dummett's sense, the semantics of the *Tractatus* is plainly anti-realistic.

Yet it is hard to maintain that in the *Tractatus* Wittgenstein endorsed verificationism, if this conception is characterized by the acceptance of the principle of verification, the principle according to which, understanding a proposition consists in knowing an empirical method to establish its truth-value. As a matter of fact, no trace of the formulation of that principle is to be found in the *Tractatus*. Moreover, it is an equally undeniable, well-known fact that, especially in the writings from 1929 to 1933, Wittgenstein himself explicitly stated that principle as the basic principle of the grammar of the assertoric discourse. In those writings, present experience is put at the foundation of those procedures by whose application a conclusive verification or falsification of genuine propositions can be obtained. Accordingly, the understanding of such propositions is identified with the knowledge of those procedures.<sup>12</sup> Now the question inevitably arises: what is changed in the passage from the *Tractatus* to the writings of the intermediate phase, that prompted Wittgenstein to give an explicit formulation of a principle never mentioned in the *Tractatus*? And, symmetrically, how can one explain that

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12 Several references to passages from Wittgenstein's texts of the so-called intermediate phase, where the verification principle is explicitly stated, can be found in Hacker, Glock and Marconi cited above.

absence in the *Tractatus*, if the phenomenalist orientation was already present there?

In order to give an answer to these questions, it is expedient to look at the semantic conception of the *Tractatus* from a slightly different point of view. The pivotal thesis that all meaningful propositions, quantified propositions included, are truth-functions of elementary propositions depicting phenomenal states of affairs amounts to the general thesis of the complete translatability of all meaningful propositions into the bottom-level phenomenalist language. In this respect, the *Tractatus* is written in the wake of the logical construction of the world proposed by Bertrand Russell in *Our Knowledge of the External World* and in *The Relation of Sense Data to Physics*, and is a forerunner of the logical construction proposed by Rudolf Carnap in *Der logische Aufbau der Welt*.<sup>13</sup> In my opinion, the peculiarity of the *Tractatus* lies in the fact that the basic units of the system are phenomenal universals, not phenomenal particulars (neither sense-data, as in Russell, nor *Erlebnisse*, as in Carnap). If things stand that way, one can easily account for the absence of any formulation of the verification principle in the *Tractatus*: once a proposition is translated into the phenomenalist language, its content is completely displayed, and that content, according to the picture theory, directly shows what phenomenal states of affairs, if obtaining, make the proposition recognizably true.

As is well known, insurmountable obstacles undermined a comprehensive and detailed articulation of the *Tractatus* conception of sentential meaning. I cannot expand on this theme here, and I will limit myself to point out what is relevant to my purposes. For many theoretical reasons, what proved to be unrealizable was the very construction of a phenomenalist language, the translatability into which had been taken over by Wittgenstein as the criterion for sentential meaningfulness in the *Tractatus*. If the phenomenal objects of the *Tractatus* logical atomism cannot be identified, phenomenal states of affairs cannot either; accordingly, elementary propositions are doomed to be left in obscurity, and the whole enterprise is left pending in the void. Nonetheless, the admission of the failure does not lead Wittgenstein to giving up the conception that anchors the semantic foundations of assertoric discourse in the possible present experience of the speaker. The old goal can be, and has to be, achieved in a new way: not by means of a by now acknowledged impracticable translation into a mythical 'phenomenological language' or 'primary language', but by means of a grammatical inquiry that clarifies how the truth or falsity of our assertions can conclusively be established on the basis of the present experience.

Thus the *Tractatus* anti-realistic conception of the truth-conditions of a proposition undergoes a crucial modification that results in the equally

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13 See Russell (1914a, 1914b) and Carnap (1928).

anti-realistic verificationist model. As Marconi has rightly suggested, it is Wittgenstein's conception of 'what it is to *know* what's the case if *p* is true' that changes: according to my interpretive conjecture, the translation of *p* into the phenomenalist language is no longer required in order to get that knowledge, and mastering a procedure of verification is all that is needed.<sup>14</sup> The change of the means to reach a goal that is constant through the passage from the *Tractatus* to the 1929–33 writings is described by Wittgenstein himself as follows: 'A proposition is completely logically analysed if its grammar is made completely clear: no matter what idiom it may be written or expressed in. I do not now have phenomenological language, or "primary language" as I used to call it, in mind as my goal. I no longer hold it to be necessary. All that is possible and necessary is to separate what is essential from what is inessential in *our* language. That is, if we so to speak describe the class of languages which serve their purpose, then in so doing we have shown what is essential to them and given an immediate representation of immediate experience ... A recognition of what is essential and what inessential in our language if it is to represent, a recognition of which parts of our language are wheels turning idly, amounts to the construction of a phenomenological language'.<sup>15</sup>

It goes without saying that many further specifications ought to be made in order to throw light on the intermediate Wittgenstein's verificationism: for instance, the exclusive role of present experience in the procedures of verification, the purported extension of the verificationist approach to mathematics, with the aim of making room for the notion of a not yet proved meaningful mathematical proposition, the criticism to Brouwer's rejection of the Principle of Excluded Middle, and so on. My modest goal in this article has been simply to put in the right perspective both the *Tractatus* anti-realism and the later transition to that form of verificationism which logical positivists endorsed enthusiastically: however, much of the interpretive work—to detail the issues, so to speak—still remains to be done.

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14 See Marconi (2002b, p. 244). In certain respects, my interpretation is in tune with the reconstruction of the development of Wittgenstein's thought in the early Thirties proposed by Hintikka and Hintikka in their (1986, Chapter 6).

15 Wittgenstein (1964, § 1, Wittgenstein's italics).



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## ON WITTGENSTEIN'S TRANSCENDENTAL DEDUCTIONS

**Abstract.** *In this paper, I aim to shed light on the use of transcendental deductions, within demonstrations of aspects of Wittgenstein's early semantics, metaphysics, and philosophy of mathematics. I focus on two crucial claims introduced by Wittgenstein within these transcendental deductions, each identified in conversation with Desmond Lee in 1930–31. Specifically, the claims are of the logical independence of elementary propositions, and that infinity is a number. I show how these two, crucial claims are both demonstrated and subsequently deployed by Wittgenstein within a series of transcendental deductions, a series which begins with extensionalism as a generalized condition of sense on propositions, and in the context of which are then derived various, further, significant and unobvious presuppositions generated by that generalized condition of sense. In addition to clearing up deductions of these two, aforementioned claims, I also elucidate deductions of the subsistence of objects, and of logical space as an infinite totality.*

### 1. Introduction

The concept of a transcendental deduction is most closely associated, of course, with the philosopher Kant. In his monumental *Critique of Pure Reason*, for instance, Kant takes it as given that we have various kinds of experience (e.g., of space and time), as well as knowledge (e.g., arithmetical, geometrical, causal). He then moves on to ask how experiences and judgments of these sorts are possible. Whatever the necessary conditions of the possibility of such experiences and judgments are, Kant thinks, can be inferred to be true on the grounds of transcendental arguments. As Derek Pereboom explains:

Among Immanuel Kant's (1724–1804) most influential contributions to philosophy is his development of the transcendental argument. In Kant's conception, an argument of this kind begins with a compelling premise about our thought, experience, or knowledge, and then reasons to a conclusion that is a substantive and unobvious presupposition and necessary condition of this premise. (2014)

In his *Tractatus*, Wittgenstein can fruitfully be understood as undertaking similar though distinct transcendental deductions. In particular, where Kant takes it as given that we have certain kinds of experience, as well as knowledge, and then asks how *they* are possible, Wittgenstein takes it as given that *language has sense*, and then seeks to deduce, transcendently, the conditions of its sense.

In conversation with his student Desmond Lee, sometime in 1930–31, Wittgenstein made the following, tantalizing remark about TLP 1.12, which provides integral insights into certain crucial *conditions* of sense which Wittgenstein thought were implied transcendently by the fact that propositions evidently *have* sense:

For the totality of facts determines both what is the case, and also all that is not the case.<sup>7</sup> This is connected with the idea that there are elementary propositions, each describing an atomic fact, into which all propositions can be analysed. This is an erroneous idea. It arises from two sources. (1) Treating infinity as a number, and supposing that there can be an infinite number of propositions. (2) Statements expressing degrees of quality. This is red contradicts This is white. But the theory of elementary propositions would have to say that if p contradicts q, then p and q can be further analysed, to give e.g. r, s, t, and v, w, and ~ t. The fact is self-sufficient and autonomous. (King and Lee, 1980, p. 120)

In this paper, I will endeavor to explicate Wittgenstein's remarks in this quotation, and will focus in particular on the ways in which they shed light upon his deployment of transcendental deductions, in an effort to demonstrate key aspects of Tractarian semantics, metaphysics, and philosophy of mathematics. I will explicate Wittgenstein's deductions of: (a) the logical independence of elementary propositions, of (b) the subsistence of simple objects, of (c) the closed but infinite character of logical space, and of (d) that infinity is a number. I will argue that what are identified in the remark to Desmond Lee as two sources of the idea that all propositions are truth-functions of elementary propositions (i.e., (a) the logical independence of elementary propositions, and (d) that infinity is a number), are in fact critical presuppositions arrived at *via* a series of transcendental deductions, a series which leads from the thesis of extensionalism, to various significant and unobvious conclusions. More specifically, extensionalism as understood by Wittgenstein presupposes (a), and thus (b), and it also presupposes (c) as well as (d). Moreover, (b) and (c) each presuppose (d). While (d) is mentioned specifically in the remark to Desmond Lee, the 'independence thesis' contained in (a) is alluded to therein when Wittgenstein says that the fact is 'self-sufficient and autonomous.'

Wittgenstein's transcendental deductions thus have the following, 'only if' conditional structure:

*Premise One:* (e)xtensionalism  $\rightarrow (((a \ \& \ c) \ \& \ d) \ \& \ (((a \ \rightarrow \ b) \ \& \ (b \ \rightarrow \ d)) \ \& \ (c \ \rightarrow \ d)))$

*Premise Two:* (e)xtensionalism (by Universalization from bipolarity as a condition of sense)

$\therefore (a \ \& \ b) \ \& \ (c \ \& \ d)$  (by *Modus Ponens*, conjunction introduction, commutation, association)

In the context of this inference, we are not trying to prove (a), (b), (c), and (d), so much as we are showing that (a), (b), (c), and (d) are presupposed in various ways by extensionalism. Hence, in essence *Premise One* says: 'extensionalism only if (a), (b), (c), and (d).' The truth of (d), in particular, is logically 'overdetermined' in the sense that it is required by (b), (c), as well as (e). (d) is presupposed by extensionalism, and by several other things presupposed by extensionalism. This crucial role played by (d) may explain why Wittgenstein places specific emphasis on it within the remark to Desmond Lee.

As displayed within *Premise Two*, Wittgenstein sees extensionalism, simply, as a demonstrably justifiable generalization of bi-polarity, or the determinacy of sense, as a significance constraint on propositions. If the essence of propositions is bi-polarity, then the essence of all propositions is bi-polarity, apparent counter-examples (such as generality, and propositional attitude ascriptions) notwithstanding. Using 'p' as a dummy constant, the relevant inference can be displayed informally as follows:

$p \vee \sim p$  (bi-polarity)

$\therefore (p) p \vee \sim p$  (by Universalization (or Universal Quantifier Introduction))

(i.e., If *any* proposition is bi polar, then *every* proposition is.)

Bi-polarity as a significance constraint on propositions, or as a condition of sense, has its origin for Wittgenstein in Russell's reflections upon propositional significance in *Principia Mathematica*, as well as in his own devastating criticisms of Russell's multiple relation theory of judgment in May-June 1913. It is well known that Russell abandoned his proposed book *Theory of Knowledge* in response to Wittgenstein's criticisms, levelled in stages over the course of May-June 1913 as Russell was furiously composing manuscript chapters and in turn showing Wittgenstein the crucial parts thereof. While there remains scholarly controversy over what precisely the nature and broader significance of these criticisms were for Russell, Wittgenstein's 'exactly expressed' objection in a June 1913 letter provides crucial insight into these criticisms, and their role in setting Wittgenstein along a trajectory to embracing bi-polarity, extensionalism, and anything implied by them, as conditions of sense. The crucial passage from that June 1913 letter reads as follows:

I can now express my objection to your theory of judgment exactly: I believe it is obvious that, from the prop[osition] 'A judges that (say) a is in the Rel[ation] R to b', if correctly analysed, the prop[osition] 'aRb.v.~aRb' must follow directly *without the use of any other premiss*. This condition is not fulfilled by your theory. (Wittgenstein, 1995, p. 29)

Notably, here Wittgenstein is not so much introducing Russell to a significance constraint upon propositional understanding of which he was previously unaware, so much as he is simply reminding Russell of this constraint on propositional understanding and suggesting that Russell's multiple relation theory does not meet it. This is evident from the fact that, in *Principia Mathematica*, Russell himself identifies this same basic significance constraint in relation to his theory of types. With reference to \*13.3 in particular Russell writes:

The following proposition is useful in the theory of types. Its purpose is to show that, if  $\alpha$  is any argument for which ' $\phi\alpha$ ' is significant, i.e., for which we have  $\phi\alpha \vee \sim\phi\alpha$ , then

' $\phi x$ ' is significant when, and only when,  $x$  is either identical with  $\alpha$  or not identical with

$\alpha$ . It follows (as will be proved in \*20.81) that, if ' $\phi\alpha$ ' and ' $\psi\alpha$ ' are both significant, the

class of values of  $x$  for which ' $\phi x$ ' is significant is the same as the class of those for

which ' $\psi\alpha$ ' is significant, i.e., two types which have a common member are identical.

(Russell and Whitehead, 1910–13/1997, p. 172)

Griffin (1985, 1985–86) and Sommerville (1979) argue that when Wittgenstein referred to a supplementary premise in the June 1913 letter quoted above, he was referring to a dyadic analogue of \*13.3, which Russell hoped to deploy (in the most basic, illustrative case of a dyadic, first order judgment) as a significance constraint on judgment in order to exclude the possibility of nonsense judgments. This reading is certainly consistent with Wittgenstein's later remark in the *Tractatus* that 'a correct theory of judgment must make it impossible to judge nonsense. Russell's theory does not fulfill this requirement.' (TLP 1974, 5.5422)<sup>1</sup>

However, the details of Wittgenstein's criticism are complex, controversial, and need not concern us here.<sup>2</sup> For our purposes what is important to note

1 When I wish to refer specifically to the 1974 Pears/McGuinness translation, I will use 'TLP 1974', while when I wish to refer specifically to the 1922 Odgen translation, I will use 'TLP 1922.' When I wish to refer indifferently to both, I will use 'TLP'

2 For more detailed discussion of the scholarly controversy concerning Wittgenstein's objections and their effects on Russell, see Connelly (2011–12, 2014, 2015 (pp. 49–76)), Pincock (2008), Hanks (2007), and Stevens (2003, 2004).

is that, in the lead up to his composition of the *Tractatus*, Wittgenstein, following Russell in *Principia Mathematica*, viewed bi-polarity as a condition of sense upon propositions. In other words, if a proposition 'p' had sense, then 'p v ~p' inevitably followed from it. The inference to *Premise Two* within the informal argument above simply extends this point by insisting that if it is true of any proposition (bipolarity), then it is true of every proposition (extensionalism).

However, Wittgenstein describes extensionalism as 'an erroneous idea' in the remark to Desmond Lee because, as he began to have doubts about the independence thesis for elementary propositions, and as his views about infinity evolved, he came to see it as indefensible. In other words, Wittgenstein thought that extensionalism transcendently implied (because it presupposed) certain views about elementary propositions, and about infinity, and when it became clear that these views could not hold, it became clear that extensionalism could not hold either. Wittgenstein's principal reason for coming to doubt the independence thesis was the colour exclusion problem alluded to in the remark to Desmond Lee.<sup>3</sup>

His views about infinity are more complex, but the denial that infinity is a number reflects a shift towards the finitistic constructivism characteristic of Wittgenstein's middle period (see Rodych, 2011). In that context, Wittgenstein came to see infinity as 'potential' as opposed to 'actual.' As he explained in Cambridge lectures from March 1930: 'Infinity is a property of a law, not of an extension...Word "infinite" not a numeral. It occurs in connection with "possible".' (Stern *et al* 2016, pp. 32–33). To say that the natural numbers are infinite, in other words, is not to say that there is a very huge, transfinite number, 'infinity', at the limit of the natural number series, which designates the size (or cardinality) of the 'extension' (or membership) of the set of natural numbers. It is instead to say that the natural number series is indefinitely expansible, that it is governed by a general law according to which it is always possible to produce a successor to any previously constructed natural number, by simply adding '1' (more on this in section 2).

In any case, as a result of these concerns, Wittgenstein ultimately abandoned extensionalism, and the correlated thesis of determinacy of sense. The present discussion aims to shed light on precisely why these assumptions were so important to Wittgenstein's extensionalism, that he abandoned it in light of his concerns and changing views about them. To that end, (e) will be the subject of section 2, while the deduction of (a) will be the subject of section 3, of (b) the subject of section 4, and of (c) the subject of section 5. As we shall see, several, interrelated deductions of (d) will also come up at various, crucial points in the discussion.

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3 For a more detailed examination of the colour exclusion problem and the role it played in Wittgenstein's coming to reject the Tractarian logical system, see Connelly (2015, pp. 123–6).

That there exist significant, thematic ‘family resemblances’ between Wittgenstein’s philosophy, and that of Kant, is not a novel idea, having been developed and defended in greater detail (and in diverse ways) by Stenius (1960, pp 214–226), Hacker (1972), and Pears (1987), among others.<sup>4</sup> Stenius in particular anticipated the notion that Wittgenstein deploys transcendental deductions (pp. 218–220) in the service of a project which bears significant similarities to, as well as crucial distinctions from Kant’s. Succinctly, while Kant seeks to resolve philosophical problems through a critical investigation into the scope, limits, and conditions of possible experience and knowledge, Wittgenstein seeks to do the same by investigating the limits and conditions of sense, intelligible language, and thought.

Unfortunately, it is beyond the scope of this paper to critically assess, or defend a position regarding, the broader scholarly controversy concerning the nature and extent of affinities between Wittgenstein’s philosophy (early and late), and that of Kant. My more modest goal will be to illuminate Wittgenstein’s deployment of one specific feature of the Kantian methodology, namely transcendental deductions, in the demonstration of key elements within his early, Tractarian, philosophical perspective. If, in undertaking that task, this paper manages to shed light on these broader debates, I would consider that a welcome, auxiliary result.

## 2. Extensionalism (e)

In his *Tractatus*, Wittgenstein arrives at extensionalism *via* a generalization of bi-polarity. In other words, Wittgenstein endeavors to show, first, that everything which is a proposition is a truth-function of the bi-polar, elementary propositions, and second, that nothing else is a proposition. Hence he explains that:

The existence of a general propositional form is proved by the fact that there cannot be a proposition whose form could not have been foreseen (i.e., constructed). The general form of a proposition is: This is how things stand. Suppose I am given all elementary propositions: then I can ask what propositions I can construct out of them. And there I have all propositions, and that fixes their limits. Propositions comprise all that follows from the totality of all elementary propositions (and, of course, from its being the totality of them all). (Thus, in a certain sense, it could be said that all propositions were generalizations of elementary propositions.) (TLP 1974, 4.5–4.52)

When Wittgenstein speaks here of the construction of all propositions out of all elementary propositions, he is, as noted by Russell (*ibid.*, pp. xv-

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<sup>4</sup> For a dissenting view, see Williams (1990)



xvii), alluding to Sheffer's proof 'that all truth-functions of a given set of propositions can be constructed out of...not-p and not-q' (*ibid.*, p. xv) The generalization of this proof to the thesis of extensionalism rests on two additional assumptions. These are identified by Russell in his introduction (*ibid.*, p. xvii). The first is that general (i.e., quantified) propositions are equivalent to truth-functions of elementary propositions, specifically conjunctions and disjunctions (i.e., truth-functional expansions). The second is that nothing other than a truth-function of an elementary proposition is a proposition, appearances notwithstanding.

That nothing other than a truth function of an elementary proposition is a proposition, Wittgenstein demonstrates primarily by providing analyses of various apparent counter-examples. The most conspicuous of these is Wittgenstein's eliminative analysis of propositional attitude ascriptions at TLP 5.542. However, TLP 5.542 is one of the most notoriously enigmatic passages in the *Tractatus*, and a detailed treatment of it would take our discussion too far afield. More interesting for our purposes is Wittgenstein's treatment of general, that is quantified, propositions.

Integral to Wittgenstein's treatment of generality is his articulation of the 'general form of a truth-function' at TLP 6. The general form of a truth function, (in symbols  $[\bar{p}, \bar{\xi} N(\bar{\xi})]$ ) specifies a procedure whereby all molecular as well as general propositions may be expressed *via* a limited number of successive applications of a single operator, N, to selections of elementary propositions. What Wittgenstein's symbol for the general form of a truth-function tells us is that we should begin with all sentence letters (symbolized by  $\bar{p}$ ), take a selection of those (symbolized by  $\bar{\xi}$ ), and then apply N to them (like so:  $N(\bar{\xi})$ ), to arrive at N-expressed<sup>5</sup> truth-functions of the elementary propositions symbolized by the selected sentence letters. According to Wittgenstein, all meaningful propositions may be expressed through variations upon this same basic procedure. In operating on selections of elementary propositions (and, successively, on their truth-functions) N functions similarly to joint negation (i.e.,  $\sim p \ \& \ \sim q$  (expressed in N notation as  $N(p, q)$ )) except that it may apply not only to two arguments, but to an indefinite number of arguments from 1, to an infinite number of arguments. To express ordinary negation, for example, we would simply apply N to a single elementary proposition, e.g., p, like so  $N(p)$ . To express the conjunction of p and q, by contrast, we would apply N, successively, first to each of p and

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5 The term 'N-expressed' simply refers to the appearance that truth-functions have when they are constructed using the N operator exclusively, as opposed to any other combination of truth-functional connectives, such as the ampersand (conjunction), the tilde (negation), or the wedge (disjunction). The truth-function known as joint negation may therefore be expressed using the ampersand and the tilde as ' $\sim p \ \& \ \sim q$ ', or using the N operator as ' $N(p, q)$ '. The truth-function in question is said to be 'N-expressed' in the second case but not the first.

$q$ , and then place each of these  $N$  expressions under an additional iteration of  $N$  like so:  $N(N(p), N(q))$ . To express the disjunction of  $p$  and  $q$ , we would apply  $N$  successively first to  $(p, q)$ , and then apply an additional iteration of  $N$  to this  $N$  expression, like so:  $N(N(p, q))$ . Since conditional statements are true whenever either their antecedents are false or their consequents are true,  $p \rightarrow q$  is equivalent to  $\sim p \vee q$  which may be expressed in Wittgenstein's  $N$  notation as:  $N(N(N(p), q))$ .

By allowing  $N$  to take an infinite number of arguments, moreover, and by allowing those arguments to be each of the infinite number of substitution instances of a propositional function such as  $fx$ , for example, we may then use  $N$  to express something equivalent to Russellian quantification. As Wittgenstein explains at TLP 5.52, for instance, 'if  $\xi$  has as its values all the values of a function  $fx$  for all values of  $x$ , then  $N(\bar{\xi}) = \sim(\exists x).fx$ .' In other words, if we substitute each of an infinite number of individual constants for  $x$  in  $fx$ , and then place each of the infinite number of elementary propositions which result within the brackets under the scope of the  $N$  operator, like so:  $N(fa, fb, fc, fd, \dots, f\omega)$  (where ' $\omega$ ' stands for the infinitieth and final constant on the list), then we will thereby express something that is equivalent to the negation of  $(\exists x).fx$ . To express the equivalent of  $(\exists x).fx$ , then, we need simply to apply an additional ' $N$ ' to the front of this  $N$  expression in succession, like so:  $N(N(fa, fb, fc, fd, \dots, f\omega))$ .

Like  $(\exists x).fx$ ,  $N(N(fa, fb, fc, fd, \dots, f\omega))$  is equivalent to a truth-functional expansion, a disjunction which takes each of an infinite number of substitution instances of the propositional function  $fx$ , as disjuncts. The equivalent truth-functional expansion can thus be given in the form of a disjunction as follows:  $fa \vee fb \vee fc \vee fd \vee \dots \vee f\omega$  (where ' $\omega$ ' again, stands for the infinitieth and final individual constant on the list). Above we saw how to express the conjunction of  $p$  and  $q$  using the  $N$  operator, and from this it is easy to see how the  $N$  operator may be used to express something equivalent to universal quantification. We may express  $(\forall x) fx$ , for example, by using  $N$  to express something equivalent to the conjunction of each of the substitution instances of  $fx$ , as follows:  $N(N(fa), N(fb), N(fc), N(fd), \dots, N(f\omega))$ . This  $N$ -expression is then equivalent to the following, conjunctive truth functional expansion:  $fa \& fb \& fc \& fd \dots \& f\omega$ . Multiple, and mixed multiply general propositions of the predicate calculus, we will then handle by using  $N$  to express the equivalent conjunctions (e.g.,  $(\forall x) (\forall y) Fxy$ ), disjunctions (e.g.,  $(\exists x) (\exists y) fxy$ ), conjunctions of disjunctions (e.g.,  $(\forall x) (\exists y) Fxy$ ), as well as disjunction of conjunctions (e.g.,  $(\exists y) (\forall x) Fxy$ ).<sup>6</sup>

As Fogelin notes, (1982, pp. 125–6, 1987, p. 81) it is crucial to the success of these constructions, however, that the lists of elementary propositions to which we apply the  $N$  operator must be limited. Otherwise, we will never

6 For a more detailed exposition of these constructions, see Connelly (2017, pp. 19–24).

be able (in the context of universal quantification, for example) to complete the required list of N expressions inside the brackets, before moving on, in succession, to apply the final operation of N which serves as the sentence's main logical operator, and takes as its scope the rest of the sentence. So expressed using the N operator, as we saw, universal quantification has the following form:  $N(N(fa), N(fb), N(fc), N(fd), \dots, N(f\omega))$ . In order to complete this N expression by applying the N furthest to the left, which is the main logical operator of the sentence, we must first complete the list of N expressions inside the brackets under its scope. But it would be impossible to do that, even in principle, unless the list of elementary propositions, each of which occurs under an iteration of N, is limited.<sup>7</sup>

This explains why Wittgenstein asserts, at TLP 5.32, that 'All truth-functions are results of successive applications to elementary propositions of a finite number of truth-operations.' This claim is the conclusion of a transcendental deduction, from bi-polarity as a condition of sense upon propositions, to a conception of general propositions as constructible *via* a limited number of successive applications of N, upon a limited number of elementary propositions. By 'finite', (*endlich*) in this case, Wittgenstein is not referring to the cardinality of a set of applications, but instead simply means 'limited' (as opposed to 'endless' or *unendlich*) and refers to the completion of an ordered series of operations (of possibly infinite cardinality).<sup>8</sup> He thereby implies that infinite domains, along with the infinite lists of elementary propositions which figure within truth-functional expansions, must constitute limited totalities. These notions presuppose the claim that (d) infinity is a (countable, actual) number, which as we saw was identified in conversation with Desmond Lee quoted in section 1.

In his introduction to the *Tractatus*, Russell (TLP 1974, p. xxiii) identifies an alleged lacuna within Wittgenstein's logical system, relating specifically to transfinite number. Briefly exploring this lacuna will help us to better understand what Wittgenstein means by the claim that 'infinity is a number', made in relation to the 'infinite number' of propositions alluded to in the remark to Desmond Lee. The lacuna has to do with the fact that, in the *Tractatus*, Wittgenstein speaks of 'infinity' as if it were one number and neither identifies nor discusses any additional, transfinite numbers. Yet, since selections of elementary propositions stand in one-to-many relations both to their truth-possibilities, and truth-functions, then if there exist infinite totalities of elementary propositions (as was presumed above in our explication

7 Geach (1981, 1982), as well as Rogers and Wehmeier (2012), have proposed notational alternatives designed to circumvent these and other issues identified by Fogelin with regards to the expressive completeness of Wittgenstein's N operator. For a more detailed critical consideration of these alternatives, see Connelly (2017).

8 See Connelly (2017, pp. 5–10) for a more deep and detailed discussion and defence of this claim.

of operator  $N$ ), this might seem to require the existence of higher, infinite totalities with transfinite cardinalities. So that leaves the situation somewhat ambiguous with regards to what, exactly, Wittgenstein means by 'infinity', particularly in relation to the infinite totalities of elementary propositions appealed to in the constructions of various  $N$ -expressions, above.

Wittgenstein later sheds light on these issues in his November 1932 Cambridge lectures when he speaks of a 'most important mistake in the *Tractatus*'. (Stern *et al.*, 2016, p. 216) There he criticizes his Tractarian account of the expressive completeness of  $N$  on the grounds that it involves a fallacy akin to 'muddling up a sum with the limit of a sum.' (*ibid.*, p. 217) In other words, a sum, like the construction of an  $N$ -expression according to the method we described above, has an end. The limit of a sum, by contrast, is something a series may ever more closely approximate, but never reach.

For example, the sum  $1/2 + 1/4 + 1/8 + 1/16 + \dots$  approaches (though it never reaches) a limit, namely 1. By contrast, the sum  $57 + 68$  comes to an end and has an answer, namely 125. The two sorts of sums are very different, in that the series of numbers put together in the latter is complete whereas in the former the series is endless. In the first case, the numbers just keep getting smaller and smaller, and the summation approaches its limit more closely and closely, but it never reaches that limit.

When he speaks of muddling up the idea of a sum with that of the limit of a sum, Wittgenstein seems to be saying that, at the time of authoring the *Tractatus*, he mistakenly thought  $N$  could replace quantification by successively operating upon infinite, but nevertheless completed lists of elementary propositions, as if an infinite conjunction of negations was more or less analogous to  $57 + 68$ , only longer. He later came to realize, however, that it does not in fact make sense to think of infinite lists of elementary propositions as completed, any more than it makes sense to think of a series approaching a limit as completed.

These observations strongly suggest that, at the time of authoring the *Tractatus*, Wittgenstein implicitly viewed infinity, especially as it relates to the totality of elementary propositions, through the lens of the concept of a 'limit ordinal.' A 'limit ordinal' is an infinite number to which one can add any finite, natural number without altering its cardinality.<sup>9</sup> So, for instance, the first limit ordinal,  $\omega$ , has the same cardinality as  $\omega + 1$ , or  $\omega + 2$ , or  $\omega + 1002$ . Moreover,  $\omega$  is identified as the ordinal number of the infinite totality of all natural numbers. Thus, if  $\omega$  represents the number of elementary propositions, then we can keep adding finite numbers of elementary propositions to a list, while nevertheless treating the list as a limited total.

These features of a limit ordinal can be made somewhat more intuitive by reflecting on the thought experiment of 'the Hilbert hotel',<sup>10</sup> which is a hotel

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9 See Steinhart (2009, pp 163–8)

10 See Steinhart (2009, pp 158–9)

that contains an infinite number of rooms, and is full of an infinite number of guests, yet busloads of new people keep showing up and the proprietor is able to find and assign rooms for those people by moving the current tenants to new rooms according numerical patterns. So, for instance, to make room for new guests, the proprietor of the hotel would take a selection of the room numbers  $1-\omega$ , say the even numbers 2, 4, 6, 8, and so on, and put the new guests in these now empty rooms after moving the prior guests from those rooms into new rooms. Even though the hotel is full, we can keep finding new rooms for old tenants to move to so that new tenants can replace them. And the cardinal number of rooms in the hotel will remain the same once the old tenants move into the new rooms.

This procedure exhibits the fallacy Wittgenstein alluded to when he talked about muddling up a sum with the limit of a sum. If you can keep admitting new guests to the hotel, then it is not really full and if you can keep admitting them *ad infinitum* then the totality of rooms is not a countable totality. If a hotel truly had an infinite number of rooms, then it could not be full, and the proprietor would not have to move any guests in order to make room for new tenants. Understood in this alternate sense, infinity is 'potential' rather than 'actual.' To say that a hotel had an infinite number of rooms would just be to say that it had an infinite potential of available space, perhaps in the sense that new rooms could be instantly fabricated any time a new guest showed up (just as a successor may instantly be fabricated for any natural number by simply adding '1'). Such a hotel might exist in virtual reality, for example.

Yet at the time of authoring the *Tractatus*, as we have suggested, Wittgenstein was committed to the actual infinite, and to the notion that elementary propositions constitute an infinite yet completed totality. No matter how many elementary propositions we operate upon in constructing our N-expressions, that number, even if infinite, will always be countable, and our N-expression will be constructible in a limited series of steps. (TLP 5.32) This seems to entail that Wittgenstein was at least implicitly committed to the claim that the totality of elementary propositions had the same cardinality as the natural numbers, and thus that of the limit ordinal  $\omega$ , namely  $\aleph_0$ .

By the time he reached his middle period when he made the remark to Desmond Lee quoted in section 1, however, Wittgenstein had come to think that the idea of a countably infinite totality (or actual, completed infinity) was a confused idea, which is why he identifies the assumption that (d) 'infinity is a number,' as one of the erroneous ideas required by Tractarian extensionalism. This may explain, in part, why in *Remarks on the Foundations of Mathematics* (Wittgenstein 1978/ 1996, p. 135), he is critical of the idea that Cantor's diagonalization argument proves the existence of a transfinite number,  $\aleph_1$ , which is of greater cardinality than  $\aleph_0$ . But at the time of authoring the *Tractatus*, he seems to have more or less uncritically

derived the notion of an infinite totality from Cantor, perhaps *via* Russell.<sup>11</sup> Moreover, he seems to have implicitly deployed the concept of a limit ordinal,  $\omega$ , to account for how  $N$  may be used to recover Russellian quantification over countably infinite domains. This explains why Moore records Wittgenstein as saying, in Cambridge lectures from November 1932, that: ‘In my book I supposed that  $(\exists x) fx = fa \vee fb \vee fc$  & so on was of laziness, when it wasn’t’ (Stern *et al*, 2016, p. 217). And it also explains why Wittgenstein writes in the *Big Typescript* that:

My understanding of the general proposition was that  $(\exists x). fx$  is a logical sum, and that although its terms weren’t enumerated there, they could be enumerated (from the dictionary and the grammar of language). (2005, p. 249)

Existential and universal quantifications, as we have seen, would be reduced to the corresponding,  $N$ -expressed, truth-functional expansions, and in that context  $N$  would operate on countably, infinitely long, but enumerable in principle and thereby completed lists of elementary propositions. If we use ‘and so on’, or ‘...’ in formulating these constructions, then according to Wittgenstein’s early view this merely indicates the irrelevant psychological fact that writing down each and every one of the terms in the construction is too time consuming, or boring, or laborious. But it would nevertheless remain possible, in principle, to write the construction down in its totality, in a limited, and successive series of steps.

### 3. Independence (a)

In section 2 we saw how Wittgenstein sought to extend bi-polarity as a condition of sense on propositions, to extensionalism as a thesis about the truth-functional nature of all propositions, including ostensibly general propositions. In section 3 we will now see how, according to Wittgenstein, both bipolarity and extensionalism presuppose logical independence as a thesis about elementary propositions. Wittgenstein describes the relevant transcendental deduction as follows:

If the world had no substance, then whether a proposition had sense would depend upon whether another proposition was true. In that case we could not sketch any picture of the world (true or false). (TLP 1974, 2.0211–2.0212)

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11 Evidence for this claim can be found in Russell’s (1919/1983) *Introduction to Mathematical Philosophy*, where Russell makes it clear (pp. 80, 89–90) he believes that two series can each be infinite, and equivalent in size, and yet one can be placed after the end of the other to create a new series of infinite size.

Truth be told, Wittgenstein is undertaking transcendental deductions of two distinct theses in this passage: a) the independence thesis for elementary propositions, and b) the subsistence of metaphysically simple objects. Since b) will be the subject of section 4, however, let us focus on a) for the time being. Wittgenstein's point here is actually quite easy to demonstrate, by considering a rudimentary truth-table, say the truth-table for  $p \ \& \ q$  (or  $N(N(p), N(q))$ ).

p	q	$p \ \& \ q$	
T	T	T	1
T	F	F	2
F	T	F	3
F	F	F	4

As per extensionalism,  $p \ \& \ q$  is in the most basic case, a truth-function of the elementary propositions  $p$  and  $q$ . In particular, it is a function which yields the value 'T' when both  $p$  and  $q$  take the value 'T', and it false otherwise. So, when is it 'otherwise'? Well, when for example  $p$  is 'T' and  $q$  is 'F'. (row 2) But if the independence thesis for elementary propositions were false, then the sense of  $p$  could theoretically depend on the truth of  $q$  and in that scenario, this line of the truth-table would be ruled out. In fact, both rows 2 and 4 would be ruled out, since, in the original table,  $q$  is false on each of those rows.

p	q	$p \ \& \ q$	
T	T	T	1
?	?	?	2
F	T	F	3
?	?	?	4

But if these two lines of the truth-table are ruled out, then the whole table and indeed the whole procedure of using truth-tables to provide the truth-conditions of molecular propositions, and thereby as a decision procedure for propositional and predicate logic, would be irreparably messed up. Extensionalism, the idea that all propositions are truth-functions of elementary propositions, thus entails independence. It presupposes, that is, the thesis that at the bottom level of analysis, elementary propositions must be capable of being either true or false, independently of the truth-values of other elementary propositions.

This explains why Wittgenstein came to see the problem of colour exclusion as such a devastating threat to the logical and semantic framework of his *Tractatus*, and why, in the conversation with Desmond Lee reproduced in section 1, he identifies as imperative to the maintenance of extensionalism,



the provision of an analysis upon which colour exclusion is reduced explicitly to contradiction (in his example, the contradiction would be between  $t$  and  $\sim t$ ). For if one cannot show upon analysis that the conjunction of 'This is red' and 'This is white' contains a hidden contradiction, then the correct analysis of these two sentences must reveal at least two mutually incompatible elementary propositions, and that is incompatible with the independence thesis for elementary propositions. This is why Wittgenstein explains that:

Just as the only necessity that exists is logical necessity, so too the only impossibility that exists is logical impossibility. For example, the simultaneous presence of two colours at the same place in the visual field is impossible, in fact logically impossible, since it is ruled out by the logical structure of colour...It is clear that the logical product of two elementary propositions can neither be a tautology nor a contradiction. The statement that a point in the visual field has two different colours at the same time is a contradiction. (TLP 1922, 6.375–6.3751)

The correct analysis of the incompatibility characteristic of colour exclusion must terminate in an explicit contradiction between e.g.,  $t$  and  $\sim t$ , since by independence, two elementary propositions  $t$  and  $p$ , e.g., cannot be incompatible.

That, moreover, Wittgenstein sees truth-tables as providing a decision procedure for propositional and predicate logic is evident from several remarks, all interrelated to his claim that '(i)t is the peculiar mark of logical propositions that one can recognize that they are true from the symbol alone' (TLP 6.113) or as he puts it at TLP 6.126 '(o)ne can calculate whether a proposition belongs to logic, by calculating the logical properties of the symbol.' According to Wittgenstein, logical propositions are tautologies, that is, molecular propositions in which elementary propositions are combined into structures which yield the value 'true' on all possible truth-value assignments to their constituent elementary propositions. That these elementary propositions yield a tautology when combined in certain ways, shows that the molecular proposition which results from their combination possesses certain relevant, structural properties. As Wittgenstein explains: 'The fact that the propositions " $p \rightarrow q$ ", " $p$ ", and " $q$ ", combined with one another in the form " $(p \rightarrow q) \cdot (p) \rightarrow (q)$ ", yield a tautology shows that  $q$  follows from  $p$  and  $p \rightarrow q$ '. (TLP 6.1201) The proposition ' $(p \rightarrow q) \cdot (p) \rightarrow (q)$ ' is thus a form of proof (TLP 6.1264), which, since it is a tautology, allows us to infer  $q$  from  $p \rightarrow q$ , and  $p$ .

Aside from yielding a tautology when combined in this way, moreover, that  $q$  follows from  $p$  and  $p \rightarrow q$  is also evident in the fact that no row of a truth-table containing columns for each of these propositions, assigns the value 'T' to each of the premises ( $p \rightarrow q$  and  $p$ ) but assigns the value 'F' to the conclusion ( $q$ ) (the premises are indicated by \* and the conclusion by C). Here we can see these two features of *Modus Ponens* side by side.

$p \rightarrow q^*$	$p^*$	$q$ C	$((p \rightarrow q) \& p) \rightarrow q$	
T	T	T	T	1
F	T	F	T	2
T	F	T	T	3
T	F	F	T	4

Hence, according to Wittgenstein, 'it follows...that we can actually do without logical propositions; for in a suitable notation we can in fact recognize the formal properties of propositions by mere inspection of the propositions themselves' (TLP 6.122). Logic is thus, in its very nature, a truth-functional calculus that allows us to decide (among other things) when propositions are logical (i.e., tautologies), and, relatedly, which propositions follow from what others.

That Wittgenstein means these considerations to apply to the predicate in addition to the propositional calculus, moreover, is evident from his providing as an example of a tautology revealing structural properties, the fact that '(x). fx:→: fa' is a tautology showing that 'fa' follows logically from '(x). fx.' (TLP 6.1201). As we have seen, at TLP 5.52 Wittgenstein indicates how one can use a truth-functional N notation, in order to express general propositions without using quantifiers (i.e., he shows how to eliminate quantifiers in favour of N). Specifically, Wittgenstein means to reduce all general propositions to N-expressed truth-functional expansions of the propositional calculus, whose logical properties may then be evaluated *via* the corresponding, truth-tabular notation. Whether a human being could perform this evaluation is, from Wittgenstein's perspective, an irrelevant psychological question. Perhaps human beings need quantifiers to codify the relevant inferences in a way they can comprehend in a finite amount of time: '(p)roof in logic is merely a mechanical expedient to facilitate the recognition of tautologies in complicated cases.' (TLP 6.1262) But from a logical point of view, quantifiers amount to no more than a completely inessential short-hand notation for an N-expressed truth-functional expansion. And a sufficiently powerful God or supercomputer could easily use the truth-tabular notation to calculate and so decide whether this N-expressed truth-functional expansion was or was not a logical proposition.

#### 4. Substance and Objects (b)

Earlier, I noted that TLP 2.0211–2.0212 contained two interrelated transcendental deductions. Recall that extensionalism is simply a generalization of the idea that being a true or false depiction of reality is the essence of propositional sense. In TLP 2.0211 Wittgenstein alludes to this generalization when he identifies two interrelated conditions upon which depend the

possibility of sketching a true or false picture of the world (i.e., of the totality of all facts, not just any particular fact). We saw that the independence thesis was one condition of the possibility of extensionalism. But in this same passage, Wittgenstein also alludes to another condition of the possibility of extensionalism: substance. If the world had no substance, Wittgenstein insists, then the independence thesis could not hold. But if the independence thesis could not hold then extensionalism would not be viable either. Thus, substance can be deduced transcendently from extensionalism.

But what precisely does Wittgenstein mean by substance, and why does he think it is entailed by the independence thesis for elementary propositions? Some light is shed on this question by the immediately preceding remark: 'objects make up the substance of the world. That is why they cannot be composite'. (TLP 1974, 2.021) If objects were composite, then they would be decomposable. But if they were decomposable, then the simple names which stand for them could potentially cease to have references. But if a name ceases to have a referent, then the proposition containing the name will cease to have a determinate truth-value, and will thus run afoul of the classical law of excluded middle. And since implying (an instance of) the law of excluded middle is a condition of sense on propositions, any 'proposition' containing an 'empty name' cannot really be a proposition. As Russell explains in 'On Denoting':

By the law of excluded middle, either 'A is B' or 'A is not B' must be true. Hence either 'the present King of France is bald' or 'the present King of France is not bald' must be true. Yet if we enumerated the things that are bald, and then the things that are not bald, we should not find the present King of France on either list. (1905, p. 485)

If the proposition 'A is B' is to have sense, then it must imply 'A is B or A is not B'. Since 'The present King of France is bald' does not seem to imply its own truth or falsity, its status as a proposition is at least *prima facie* dubious.

Of course, Russell's solution to this problem is to insist that 'the present King of France' is really a description not a name or singular term. But Wittgenstein thinks this sort of 'descriptivist' approach will resolve the problem alluded to in the passage, only if such descriptions consist of complete descriptions, which could in principle be analysed down to the level of statements about the most basic, atomic constituents of the complexes so described. Hence he insists that:

Objects are simple. Every statement about complexes can be resolved into a statement about their constituents and into the propositions that describe the complexes completely. (TLP 1974, 2.02– 2.0201)

If such complete descriptions were not reducible to elementary propositions containing simple names standing for metaphysically simple,

and so indecomposable objects, then statements about either complexes or objects could depend for their sense (i.e., their bi-polarity) upon other propositions attributing existence to those complexes or objects. But in that case, the sense of one proposition (e.g., Kripke is a logician) might depend upon the truth of another (i.e., Kripke exists), and that would violate the independence thesis for elementary propositions.<sup>12</sup> As we have seen, however, the independence thesis for elementary propositions is, according to Wittgenstein, the *sine qua non* of extensionalism, and extensionalism is simply a generalization of bi-polarity as an essential condition of sense upon propositions. The subsistence of metaphysical simples can thus be deduced transcendently from extensionalism, i.e., the determinacy of sense.

But how does this analysis engage with Wittgenstein's claim, in the remark to Desmond Lee, that 'infinity is a number' (d)? Here the idea that infinity is a number is implied by the fact that simple objects are the result of an infinite yet terminal division of everything complex down to its most basic, atomic constituents. In other words, if one divides any complex into its constituent parts, and those parts into their constituent parts and so on *ad infinitum*, the division will nevertheless terminate in basic constituents which cannot be further divided. These will be what is referred to by semantically simple names, and that an elementary proposition contains such names will be a necessary condition of sense. Wittgenstein calls these metaphysically simple constituents 'objects' by contrast with everything else in the world which is 'complex.' While complexes 'exist' according to Wittgenstein, because they are decomposable and so could fail to exist; objects 'subsist' because they are indecomposable and so cannot fail to subsist. The subsistence of metaphysically simple objects is thus presupposed in true or false assertions of the existence of complexes. In other words, substance is presupposed as a condition of sense both of elementary propositions describing atomic facts, but also of any 'world picture' consisting of truth-functions of those elementary propositions. The subsistence of metaphysically simple objects, (b), is thus presupposed by extensionalism (e), and in turn presupposes (d) the claim that infinity is a number since objects are simply what is left over, at the end, after everything that can be divided is divided into its constituent parts *ad infinitum*.

## 5. Logical Space (c)

In section 2 we examined how Wittgenstein intended to extend his claim about the bi-polarity of propositions, to extensionalism as a claim about the truth-functional character of all propositions, including general propositions.

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12 This point is nicely developed by Pears (1987, pp. 126–7). Obviously, the use of the name 'Kripke' is merely illustrative. The same point can be made to apply to simple objects by considering the proposition pair:  $Fa, (\exists x) (x=a)$ , where 'a' is the name of a simple object.

Given the idea that elementary propositions comprise an actual, completed infinity, as we saw, it was easy to envision how general propositions could be expressed *via* a limited number of successive applications of N. We can now note some important implications of this construction, relative to Wittgenstein's intention to deploy truth-tables as a decision procedure for both propositional and predicate logic. If all propositions, including general propositions are expressible *via* a single, truth-functional operator, and if that truth-functional operator is, therefore, in principle eliminable in favour of truth-tabular representation, it is easy to see how one could use the truth-tabular method to assess the truth-functional truth or truth-functional falsehood of any proposition, as well as the validity of any inference from one proposition, or set of propositions, to another proposition. In section 3, however, we saw that this 'truth-tabular' picture of expressive completeness, and of entailment, presupposes the notion that elementary propositions are logically independent. If elementary propositions are not logically independent, then certain crucial lines of the truth-tables we use to express and to test propositions, will be ruled out.

If, however, infinity is a countable, actual number, and if elementary propositions are logically independent of one another, then all propositions are expressible *via* a terminal number of truth-operations, and there is in principle, at least, a complete (if very long) truth-table which lists the truth-conditions of every meaningful proposition. On this assumption, a very powerful God, or supercomputer, say, might complete the truth-table listing the truth-conditions of every meaningful proposition, as well as complete a check as to whether any given proposition on the list followed from other propositions on the list. It could also complete a check with regards to any proposition on the list, whether that proposition was or was not a tautology (or a contradiction). And so the *Tractatus* would present a system which was both expressively complete, in principle, and which also provided a decision procedure, in principle, for propositional and predicate logic. Keep in mind, this is all hypothetical. If infinity were an actual, countable number and if all elementary propositions were logically independent, then in principle what I have said above would present a conflict which Church's theorem, or the proof that there is no decision procedure for first order logical validity. (c.f. Fogelin, 1982, p. 127) But infinity is not a number, elementary propositions are not logically independent, and that is why Wittgenstein eventually repudiated both of these claims by 1931. So, there is no conflict.

However, if, on those assumptions, such a decision procedure were possible, this would have some important implications for logical space. In particular, it would imply that logical space, though infinitely large, must nevertheless be limited or totalized. It would have to contain an infinite number of negative and positive facts, and these would also have to be *all of* or the *totality of facts*. Logical space would have to be both boundless

and endless, but also limited and closed. It would have to be infinitely fine in the sense of ultimately being made up of constituents which were the remainder after everything that could be divided was divided *ad infinitum*, but also all-encompassing in the sense that whatever *could* be constituted of such constituents would embody the totality of all possible facts. And these are precisely the ways we do find Wittgenstein characterizing logical space, at various junctures throughout the *Tractatus*. Wittgenstein notes for instance that:

The world is determined by the facts, and by these being *all* the facts. For the totality of facts determines both what is the case, and also all that is not the case. The facts in logical space are the world. (TLP 1922, 1.11–1.13)

But he also writes for instance that 'a spatial object must be lie in infinite (*unendlichen*) space'. (TLP 2.0131) It must, that is, lie in 'endless' or 'unending' space. Similarly, Wittgenstein characterizes logical space both as the 'infinite whole', (TLP 4.463) which is left undetermined by a tautologous assertion, but also as a 'limited whole', (TLP 6.45) viewed under the aspect of eternity, or timelessly. He claims moreover that logic, which is a mirror of the world, is a 'network' (TLP 5.511) that is both 'all-embracing', (*ibid.*,) but also 'infinitely fine'. (*ibid.*,)

Perhaps most interestingly in this connection, is Wittgenstein's characterization of logic as the study of a 'closed regular structure' or 'sphere' in which the answers to logical and philosophical questions are 'symmetrically combined':

The solutions of the problems of logic must be simple, since they set the standard of simplicity. Men have always had an intuition that there must be a sphere in which the answers to questions are symmetrically united—*a priori*—into a closed regular structure. A sphere in which the proposition, *simplex sigillum veri*, is valid. (TLP 1922, 5.4541)

For Wittgenstein, remember, logic is not simply the study of symbols in a book. It instead reveals the *a priori* logical form, or 'logical scaffolding', (TLP 3.42, 4.023,) of reality: 'the propositions of logic describe the scaffolding of the world.' (TLP 6.124) An important feature of the *a priori* logical scaffolding which Wittgenstein identifies at TLP 5.4541, then, is that it embodies a 'closed regular structure' (*abgeschlossenen, regelmäßigen Gebilde*) or 'closed regular shape', (shape=*Gebild*) akin to a sphere.

Such a conceptualization of logical space dovetails well with a Hertzian reading of Tractarian objects (see Bizarro, 2010), according to which the underlying substance of reality, that which provides the 'unalterable form' (TLP 2.023) of the world, are Hertzian 'material points' akin to geometrical, space-time coordinates. On this reading, simple, indivisible, geometrical,

space-time coordinates are the substance, that is objects, of which the infinitely divisible, and infinitely large, but nevertheless limited totality of logical space is made up. On Wittgenstein's view, logical space is a symmetrical, and enclosed, infinitely divisible geometrical network which embodies the *a priori* conditions of the possibility of all facts and propositions. It is an 'all embracing' and 'infinitely fine' network, or field, into which all of the atomic and molecular logical forms shown by propositional and logical signs are 'connected' (TLP 5.511) or interwoven. Propositional signs thus give the 'logical coordinates,' (TLP 3.41) of a 'logical place' (TLP 3.411), and these 'agree' (*ibid.*,) with the coordinates of a 'geometrical place' (*ibid.*,) in which existence is possible. And this explains why Wittgenstein claims that:

Though a state of affairs that would contravene the laws of physics can be represented by us spatially, one that would contravene the laws of geometry cannot...geometry can obviously say nothing about the actual form and position of geometrical figures. But the network is purely geometrical, and all its properties can be given *a priori*. (TLP 3.0321, 6.35)<sup>13</sup>

In other words, logic and geometry are together 'consistent'<sup>14</sup> (TLP 3.411) in providing the *a priori* 'network', or 'scaffolding', (TLP 3.42) which makes possible the existence of states of affairs. Yet because logical and geometrical space constitute a space of *possibility* characterized essentially by the existence and non-existence of atomic facts, described completely by the totality of true and false elementary propositions, and because that space of possibility must be limited or closed if truth-tables are to give the determinate truth-conditions and truth-grounds of any truth-function of elementary propositions, logical and geometrical space as a *whole* must be given, if any meaningful elementary proposition is given: 'a proposition determines only one place...but nevertheless gives the whole of logical space.' (TLP 3.42)<sup>15</sup> Extensionalism, as a generalization of the bipolarity of elementary propositions, thus implicates the subsistence of an infinitely large, and infinitely divisible, but limited and totalized, closed regular structure for all negative and positive facts which are the case. In other words, it entails the subsistence of a limited but infinite, logical and geometrical scaffolding for the world.

## 6. Conclusion

In this paper, I set out to shed light on Wittgenstein's use of transcendental deductions in his endeavour to demonstrate key aspects of Tractarian semantics, metaphysics, and philosophy of mathematics. In particular,

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13 Translation altered.

14 Translation altered.

15 Translation altered.



I focused on two crucial claims which figured integrally within these transcendental deductions, each identified in conversation with Desmond Lee in 1931. Specifically, these claims were that of (a) the logical independence of elementary propositions, and (d) that infinity is a number. I showed how these crucial claims were demonstrated and deployed by Wittgenstein in the context of a series of transcendental deductions, which began with extensionalism as a generalized condition of sense on propositions, and which subsequently sought to demonstrate several significant, but unobvious presuppositions of that generalized condition of sense. In section 1, I explored the origins of this generalized condition of sense both in Russell's *Principia Mathematica*, and in Wittgenstein's 1913 critique of Russell's multiple relation theory of judgment. In section 2, explicated the role played by extensionalism within Tractarian logic and semantics, and showed how the expressive completeness of Wittgenstein's N operator presupposes the claim that infinity is an (actual, countable) number. In section 3, I then showed how the independence thesis for elementary propositions was to be deduced transcendently from extensionalism. In section 4, I showed how the subsistence of simple objects was deduced from extensionalism and independence, and how this deduction also required the crucial assumption that infinity is a number. Finally, in section 5 I drew out some implications of the thesis of extensionalism for the nature of logical space, and showed how the required characterizations of logical space are both textually well-founded, and depend the assumption that logical space is an infinite totality. As we saw, Wittgenstein consistently characterizes logical space both as an 'infinite whole' but also a 'limited whole.' He characterizes it as an 'infinitely fine network', but also as a 'closed regular structure.' These features explain how the logical forms of various elementary and molecular propositions can be interwoven into 'self-contained system' (Wittgenstein, 1974, 5.4541) in which logical and geometrical spaces agree. And they explain, finally, how any meaningful proposition or truth-function, whether elementary or molecular, infinite or finite, can be listed on a truth-table which explicates its determinate truth-conditions and truth-grounds.

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## WILLIAM JAMES ON CONCEPTIONS AND PRIVATE LANGUAGE<sup>1</sup>

**Abstract.** *William James was one of the most frequently cited authors in Wittgenstein's Philosophical Investigations, but the attention paid to James's Principles of Psychology in that work is typically explained in terms of James having 'committed in a clear, exemplary manner, fundamental errors in the philosophy of mind.'* (Goodman 2002, p. viii.) *The most notable of these 'errors' was James's purported commitment to a conception of language as 'private'. Commentators standardly treat James as committed to a conception of language as private, and the most notorious instance of this commitment can purportedly be found in his discussion of the feelings associated with logical terms like 'and', 'if' and 'but' in the Principles's chapter, 'The Stream of Thought'. However, the received view stands in need of serious re-evaluation. In particular, there is little reason to think that James's notorious discussion of the 'if-feeling' should be understood as an attempt to give an account of the meaning of 'if' (indeed, there is little reason to even think that Wittgenstein interpreted him this way). The picture of our ideas developed in 'The Stream of Thought' sits badly with any theory that identifies meanings with ideas in this way, and while James's chapter on 'Conception' (as well as some portions of Some Problems of Philosophy) has also been portrayed as committing James to the in principle privacy of language, it will be argued here that James's account of our 'conceptions' is radically different from that of the private linguist.*

### 1. Introduction

William James was one of the most frequently cited authors in Wittgenstein's *Philosophical Investigations* (tied with Frege and behind only Augustine),<sup>2</sup> but while Wittgenstein was famously a fan of James's *The Varieties of Religious Experience*<sup>3</sup> this attributed fondness is rarely extended to James's *Principles of*

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1 I'd like to thank audience members in Chicago, Birmingham, Hamilton, Las Vegas, Helsinki, and Calgary for comments on earlier versions of this paper. I'd especially like to thank Russell Goodman and the late Richard Gale, both of whom gave generous feedback on earlier drafts. I'm focusing on the differences with them in what follows, but I've learnt a tremendous amount from both. Without the former, I'd not have thought seriously about the relation between Wittgenstein and James, and without the latter, I would not have thought seriously about James at all.

2 See Goodman 2002 p. 61.

3 He wrote to Russell in 1912 'This book does me a lot of good.' (Von Wright, 1974, p. 10.)

*Psychology* (hereafter ‘PP’). Indeed, Wittgenstein’s well-documented attention to the later book was often explained in terms of James being ‘a classical exponent of the tradition in the philosophy of mind that [Wittgenstein] was opposing’,<sup>4</sup> and the received view of the relation between James and Wittgenstein is that ‘James was important to Wittgenstein primarily because he committed in a clear, exemplary manner, fundamental errors in the philosophy of mind.’<sup>5</sup>

The most notable of these ‘errors’ involved James’s purported commitment to a conception of language as ‘private’. As Richard Gale puts it in his *The Divided Self of William James*:

It is this commitment to an in-principle private language that earned James the distinction of being the major whipping boy of the latter Wittgenstein. One gets the feeling that Wittgenstein wrote his *Philosophical Investigations* with an open copy of *The Principles of Psychology* before him, especially the chapter of ‘The Stream of Thought’. (Gale 1999, p. 165)

Gale is certainly not alone in this view, and commentators standardly treat James as committing himself to a conception of language as private in the *Principles*’s ninth chapter, ‘The Stream of Thought’.

However, the received view stands in need of serious re-evaluation, and, in this respect, the reception of Wittgenstein’s work has had a largely pernicious effect on our understanding of James. In particular, the picture of our ideas developed in ‘The Stream of Thought’ sits badly with any theory that identifies meanings with ideas in the way that Wittgenstein targets. Further, while the *Principles*’s twelfth chapter, ‘Conception’ (as well as some portions of *Some Problems of Philosophy*), has also been portrayed as committing James to the privacy of language, it will be argued here that James’s account of our ‘conceptions’ is radically different from that of the private linguist, and that when James claims, for instance, that we are ‘the mind can always intend, and know when it intends, to think of the Same’ (PP 434), he isn’t referring to any sort of *epistemic* achievement.

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4 Coope, Geach, Potts & White 1970, p.7. For some other instances of the received view, see Budd 1989 pp. 157–64, Fogelin 1987 pp. 176–7, Hacking 1982, Hacker 1990 (Ch. 2), 1996 (Ch. 4–6), and Hilmy 1987 p. 198. For a discussion of some of these instances of this received view, see Boncompagni, 2012, p. 37, 2016, p. 6, and Goodman 2012, p. 62.

5 Goodman 2002, p. viii. I should note that Goodman is here describing rather than endorsing the received view. Goodman is mainly concerned with pushing back against that view, and he makes a persuasive case for Wittgenstein having in many respects not only ‘learned from’, but also ‘loved and trusted’ James (Goodman 2002, pp. 179, 3). That said, when it comes to the privacy of language, even Goodman seems willing to endorse the received view (and is thus happy to assume that James ‘would have been forced to acknowledge the force of Wittgenstein’s criticisms of his unrelieved empiricism’ (Goodman 2002, p. 179)).

## 2. The ‘if feeling’

While Wittgenstein discussed a number of topics from James’s *Principles*, we will start here with the passages relating to what Wittgenstein refers to as the ‘if-feeling of James’, since perhaps the most damaging effect of reading Wittgenstein and his commentators (at least *vis a vis* our understanding of James) is that it can leave one with the impression that James argued that the meanings of words like ‘and’, ‘if’ and ‘but’ were the particular *feelings* that we had when we used those words.

Wittgenstein’s arguments that (1) there are no such unique repeatable feelings associated with the use of a word like ‘if’ and (2) even if there were, they wouldn’t capture the *meaning* of the word (P.I., Part 2, #37–45), seem completely persuasive. Indeed, the ‘if-feeling’ theory of meaning for ‘if’ seems like such an obvious non-starter that it is easy to see why anyone who first became acquainted with James through reading about it might decide that there was no point in wading through all (or any) of the other 1200+ pages of *The Principles of Psychology*.<sup>6</sup> It is fortunate for James, then, that there is little reason to think that he was committed to anything like the ‘if-feeling’ theory of meaning for ‘if’. In fact, it will be argued below that there is reason to doubt that Wittgenstein even *attributed* such a theory to James.

Now the passage that purportedly gets James into all his trouble with Wittgenstein runs as follows:

We ought to say a feeling of *and*, a feeling of *if*, a feeling of *but*, and a feeling of *by*, quite as readily as we say a feeling of *blue* or a feeling of *cold*. Yet we do not: so inveterate has our habit become of recognizing the existence of substantive parts alone, that language almost refuses to lend itself to any other use. (PP 238)

One should note immediately that this passage only affirms the *existence* of the if-feeling, it says nothing about the feeling’s having any meaning-determining role. So, why should this passage, which does not *explicitly* endorse the if-feeling theory, be understood as committing James to it? Even commentators who attribute the view to James have admitted that the textual evidence for the attribution is inconclusive. For instance, Goodman writes:

James does not actually say, although he suggests, that the *feeling* of ‘and’ is the *meaning of the word* ‘and’. In any case, this is the way Wittgenstein does take it, if not in *Philosophical Grammar*, then in *The Brown Book* of 1934–5, and Part 2 of the *Investigations*.<sup>7</sup>

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6 This was certainly the effect that it had on me as an undergraduate, and it took more than a little arm twisting on Richard Gale’s part for me to put those prejudices aside long enough to actually take a graduate seminar on James’ work.

7 Goodman, 2002, p. 75. For another resent interpretation of James as a justified target for Wittgenstein’s private language argument, also Boncompagni 2012, p. 41.



However, when we are dealing with a theory as manifestly implausible as the ‘if-feeling’ theory, we should look for more than a *suggestion* before we attribute it to anyone. This is especially true in James’s case, since there is good reason to think that, given what else he says in the *Principles*, he could not have consistently endorsed such a theory.

The if-feeling-theory is, after all, a species of what could be called ‘crude empiricism’ about meaning and content, since it treats our words merely as labels for the ‘ideas’ which constitute the ‘meanings’ of those words. There is, say, a fixed ‘blue-idea’ and ‘blue’ is simply a label for that idea. The if-feeling-theory simply adds to the empiricist’s standard stock of meaning-constitutive ideas by claiming that words like ‘and’, ‘if’ and ‘but’ are labels for a less salient ideas that had previously been ignored because of our ‘inveterate’ habit of recognizing only the ‘substantive’ parts of experience (PP 238).

While many have read James’s claim that we ought to say a feeling of *if* ‘quite as readily as we say a feeling of *blue*’ as an endorsement of the if-feeling theory, the quotation only begins to suggest this if James *already* endorsed something like a crudely empiricist account of the meaning of ‘blue’. But, as we shall see, James challenges just such accounts less than 15 pages before his putative endorsement of the if-feeling-theory.

For instance, Wittgenstein casts doubt on the claim that there is any *single* ‘if-feeling’ by asking:

Are you sure that there is a single if-feeling, and not perhaps several? Have you tried saying the word in a great variety of contexts? For example, when it bears the principal stress of the sentence, and when the word next to it does. (P.I. part 2, #39.)

Goodman claims that ‘Wittgenstein examines a variety of cases, but fails to find the feeling that James supposed must always be there’ (Goodman 2002, p. 75), but Wittgenstein’s suggestion that there is no single if-feeling shared across contexts would hardly have been news to James, who argues that there is no *single* feeling associated with ‘blue’ or ‘cold’ either. As he puts it:

[c]lose attention to the matter shows that there is no proof that the same bodily sensation is ever got by us twice... What is got twice is the same OBJECT. We hear the same *note* over and over again; we see the same *quality* of green, or smell the same objective perfume, or experience the same *species* of pain. The realities, concrete and abstract, physical and ideal, whose permanent existence we believe in, seem to be constantly coming up before our thought, and lead us, in our carelessness, to suppose that our ‘ideas’ of them are the same ideas. (PP 225)

The belief that we have such repeatable ideas is a classic example of what James calls ‘the psychologist’s fallacy’, namely, the psychologist’s ‘confusion of his own standpoint with that of the mental fact about which he is making

his report'.<sup>8</sup> This fallacy, which involves attributing to ideas properties that are only held by their objects is explicitly taken by James to ground classical empiricist psychology, and it is precisely such psychology that leads to a conception of language as private. As James puts it:

Naming our thought by its own objects, we almost all of us assume that as the objects are, so the thought must be. The thought of several distinct things can only consist of several distinct bits of thought... As each object may come and go, be forgotten and then thought of again, it is held that the thought of it has a precisely similar independence, self-identity, and mobility. *The thought of the object's recurrent identity is regarded as the identity of its recurrent thought*; and the perceptions of multiplicity, of coexistence, of succession, are severally conceived to be brought about only through a multiplicity, a coexistence, a succession, of perceptions. The continuous flow of the mental stream is sacrificed, and in its place an atomism, a brickbat plan of construction, is preached, for the existence of which no good introspective grounds can be brought forward... These words are meant to impeach the entire English psychology derived from Locke and Hume, and the entire German psychology derived from Herbart, so far as they both treat 'ideas' as separate subjective entities that come and go. (PP 194–195, italics mine.)

It may be possible that over the next few pages James simply forgot all of this, or somehow thought that the crudely empiricist theory worked for 'if' even though it *didn't* work for 'blue', but it is more plausible to think that he took it to work for neither.

On such a reading, just as James understood a set of experiences as 'cold-experiences' or 'blue-experiences' because they were associated with particular 'concrete' and 'physical' realities, he understood another set of experiences as 'and-experiences' because they were associated with particular 'abstract' and 'ideal' realities/relations. The meanings of the terms relate to

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8 PP 195. He describes this fallacy in further detail in PP 268:

We have the inveterate habit, whenever we try introspectively to describe one of our thoughts, of dropping the thought as it is in itself and talking of something else. We describe the things that appear to the thought, and we describe other thoughts about those things—as if these and the original thought were the same. If, for example, the thought be 'the pack of cards is on the table', we say, "Well, isn't it a thought of the pack of cards? Isn't it of the cards as included in the pack? Isn't it of the table? And of the legs of the table as well? The table has legs—how can you think the table without virtually thinking its legs? Hasn't our thought then, all these parts—one part for the pack and another for the table? And within the pack-part a part for each card, as within the table-part a part for each leg? And isn't each of these parts an idea? And can our thought, then, be anything but an assemblage or pack of ideas, each answering to some element of what it knows?"

the common realities that the experiences were *experiences of*, not (or at least not just) the experiences themselves.<sup>9</sup>

It shouldn't be surprising that James denies that there were any such repeatable experiences to serve as the meaning of 'blue', 'cold' or 'if'. The chapter where James discusses the if-feeling is called 'The Stream of Thought' for a reason, and one of the main conclusions of that chapter is that there are *no* ideas of the sort associated with the crudely empiricist model of meaning. As James puts it:

*There is no manifold of coexisting ideas; the notion of such a thing is a chimera. Whatever things are thought in relation are thought from the outset in a unity, in a single pulse of subjectivity, a single psychological feeling, or state of mind.* (PP 268.)

What we experience are *things in relations*, and we typically no more have a separate experience of things than we do of the relations themselves. In light of this holism about the structure of thought, James's claim that 'We ought to say ... a feeling of *if* ... quite as readily as we say a feeling of *blue*', can be read as merely putting the two in the same group, and unless you think that the crudely empiricist account works for 'blue', it won't lead you to think that it would work for 'if'. Conversely, (and importantly for Wittgenstein), if you don't think that it will work for 'if', then you shouldn't endorse it for 'blue' either. The much-maligned 'if-feeling' passage is thus better understood in the context of the holistic claim that there is no unique (distinct/repeatable) blue-feeling than it is as the implausible suggestion that there is a unique meaning-determining feeling associated with 'if'.<sup>10</sup>

So why would Wittgenstein attribute the if-feeling theory to James? No one has ever accused Wittgenstein of being an overly generous interpreter of others, but it is not as if Wittgenstein simply remembered James's claim from hearing someone else quote it out of context. Wittgenstein was actively engaged with James's book for at least a decade (at one point the *Principles* made up

9 'If there be such things as feelings at all, *then so surely as relations between objects exist in rerum naturâ, so surely, and more surely, do feelings exist to which these relations are known.*' (PP 238, italics James's.)

10 All that said, one might still think that James commits himself to something like the empiricist theory of meaning soon after in 'The Stream of Thought' when he says that '... no word in an understood sentence comes to consciousness as a mere noise. *We feel its meaning as it passes*' (PP 271, italics mine). However, there is a large gap between saying that we feel a word's meaning as it passes and saying that in such cases the meaning is the passing feeling. Saying that we feel the meaning as it passes no more commits us to meanings being feelings than saying I saw the army as it passed commits me to the army being a visual impression. Those inferences would follow only if our ideas were the only things we could feel or see, but James's account of perception, both in the *Principles* and throughout his later work, rejects precisely the assumption that the objects of perception need be restricted in this way.

the entirety of his philosophical library),<sup>11</sup> and he seriously considered using James's *Principles* as the text for his graduate course at Cambridge,<sup>12</sup> so it would be surprising to find that he misread James so badly. This interpretive problem disappears if it turns out that Wittgenstein didn't read James this way, and in what follows, I'll raise some doubts about whether the 'if-feeling' theory was ever really attributed to James by Wittgenstein.

James is not explicitly cited in the discussions of the if-feeling in the *Investigations*, and while Wittgenstein does mention James in his earlier discussion of the if-feeling in the *Philosophical Grammar*, those passages don't present the feeling as a candidate for the meaning of 'if', and generally don't seem critical of James at all.<sup>13</sup> Still, while James is not explicitly mentioned in the if-feeling sections of the *Investigations*, he does turn up in a similar set of remarks in the *Brown Book* that run as follows:

We think of the meaning of signs sometimes as states of mind of the man using them, sometimes as the role which the signs are playing in a system of language. The connection between these two ideas is that the mental experiences which accompany the use of a sign undoubtedly are caused by our usage of the sign in a particular usage of language. William James speaks of specific feelings accompanying the use of such words as 'and', 'if', 'or'. And there is no doubt that at least certain gestures are often connected with such words... And there obviously are visual and muscular sensations connected with these gestures. On the other hand it is clear enough that these sensations do not accompany every use of the word 'not' and 'and'. If in some language the word 'but' meant what 'not' means in English, it is clear that we should not compare the meaning of these two words by comparing the sensations which they produce. ... But we do not want to deny that the people who use the word 'but' as 'not' is used in English will, broadly speaking have similar sensations accompanying the word 'but' to those the English have when they use 'not'. And the word 'but' in

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- 11 Though there may be some dispute about just what version of James's *Psychology* Wittgenstein was reading. Nubiola suggest that Anscombe said that Wittgenstein only read *Psychology: The Briefer Course*, rather than the full *Principles of Psychology*. (He cites Haack (1982, p. 163, n.1) as source for this (Nubiola 2000, p. 3)). On the other hand, Passmore (1957, p. 428, n. 2.) seems to suggest that the full *Principles* was what James was reading.
- 12 For a discussion of the extent of Wittgenstein's engagement with the *Principles* and how, see especially Goodman 2002, ch. 3.
- 13 See Goodman 2002, p. 60. The passage in question reads: 'A man who reads a sentence in a familiar language experiences the different parts of speech in quite different ways. (Think of the comparison with meaning-bodies.) We quite forget that the written and spoken words for 'not', 'table' and 'green' are similar to each other. It is only in a foreign language that we see clearly the uniformity of words. (Compare William James on the feelings that correspond to words like 'not', 'but' and so on.)' (Wittgenstein 1974, 58).

the two languages will on the whole be accompanied by different sets of experiences. (Wittgenstein 1958, 78–9)

In this quote, Wittgenstein claims that James talks about the *existence* of the if-feeling, but, once again, he doesn't attribute to him any commitment to its being meaning-determining.

Wittgenstein may, then, not be so much *criticizing* James as *working with* him.<sup>14</sup> James argues in 'The Stream of Thought' that the dominant strains in both the 'empiricist' and 'intellectualist' traditions deny that there were *any* experiences of relations (the empiricists denying that any ideas corresponded to the words in question, while the intellectualists took such ideas to be imposed *a priori* on experience), and his main concern in those passages is arguing for the *existence* of such experiences, not for their meaning-determining role.

The mere existence of such experiences is, however, bad news for the crude empiricist about linguistic and thought content, since the empiricist theory seems so implausible if extended to terms like 'if' and 'but'. By helping himself to James's phenomenological claim, Wittgenstein can thus present the crudely empiricist position in as poor a light as possible. Consider, for instance, the following passage from *The Big Typescript*:

What do we want to understand by the 'meaning' of a word? A characteristic feeling that accompanies the uttering (hearing) of the word? (James's and-feeling, if-feeling.) Or do we want to use the word 'meaning' completely differently; and say, for instance, two words have the same meaning if the same grammatical rules apply to both? (Wittgenstein 2005, p. 29)

James can be read here (and may have been read by Wittgenstein) not as offering an account of the meaning of the words in question, but as a source for the existence of a particular set of feelings for which the crudely empiricist account seems highly implausible.<sup>15</sup>

After all, Wittgenstein's question would have considerably less rhetorical force if he took his examples from the stock of cases considered by Russell,<sup>16</sup> as the following modification of the quotation immediately above should make clear.

What do we want to understand by the 'meaning' of a word? A characteristic feeling that accompanies the uttering (hearing) of the

14 Which is, of course, how Goodman characterizes Wittgenstein's earlier treatment of this bit of James in the *Philosophical Grammar* (Goodman 2002, p. 60).

15 So the quote need not be, as Goodman suggests (2002, p. 76), a case where Wittgenstein 'attributes to James the idea that meanings are states of mind'.

16 See, for instance, fifth chapter of his *The Problems of Philosophy* (Russell 1912).

word? (Russell's pain-feeling, white-feeling.) Or do we want to use the word 'meaning' completely differently; and say, for instance, two words have the same meaning if the same grammatical rules apply to both?

If we stick to more typical examples like 'pain' or 'white' the crudely empiricist theory *does* have a certain appeal, an appeal which disappears quickly when Wittgenstein helps himself to the broader palette of psychological phenomena found in James's *Principles of Psychology*. James's work serves as a remedy for the 'one-sided diet' of examples that can make theories like crude empiricism tempting.<sup>17</sup> Earlier empiricists could duck these cases by suggesting that since there were no experiences associated with such words, they must pick out relations between ideas rather than ideas themselves, but once one accepts James's phenomenological claims, that line of defense becomes unavailable.

### 3. Conceptions and the 'Constancy of the Mind's Meanings'

Reading the if-feeling passages as an extension of, rather than criticism of, crude empiricism is just one symptom of the general tendency to treat James as endorsing the kind 'idea-based' theory of meaning targeted by Wittgenstein's private-language argument.<sup>18</sup> This tendency to see James as presenting a classic version of a private language might seem strange given that, for the classic private linguist, words pick out private, repeatable ideas, which only the thinker has access to, and James seems to deny precisely that such ideas exist. Wittgenstein's criticisms of private sensation language relate to the question of how the speaker can really know whether the sensation he is applying a term to now is the same as the one he applied it to before, but for James such worries make no sense. Ideas are never repeated, so we *could* know whether or not our words are being prompted by the same ideas that they were before, it's just that the answer is always that they aren't, and so no notion of correctness can be based on conformity to the ideas originally attached to our words.

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17 'A main cause of philosophical disease—a one-sided diet: one nourishes one's thinking with only one kind of example.' PI, 593. (For a discussion of how Wittgenstein might have used James's 'acute sense of the variety of human experience' to keep his diet well rounded, see Goodman 2002, pp. 3, 62, 82.)

18 Goodman, for instance, argues that when James thinks about linguistic meaning, he 'sees experiences as the only candidates' (Goodman 2002, p. 75), and how this general understanding leads to his interpretation of the if-feeling passages can be seen in claims such as:

The audience for Wittgenstein's question, 'Are you sure there is a single if-feeling' is, firstly, William James; and secondly, all who agree with him that a feeling does or could constitute the meaning of a term. (Goodman 2002, p. 76)

It was obvious for James to search for meaning among the specific feelings accompanying the use of such words as 'and' and 'or'—but this obvious first step was 'the one that altogether escapes notice' (PI, 308). (Goodman 2002, p. 120.)

One might respond to this by arguing that even if James thinks that every *particular* thought is different, they may still share common *features*, and it is the repeatable elements in those states that are being picked out as the ‘private’ meanings of our terms.<sup>19</sup> However, James seems to rule out even such an ‘abstractionist’ fallback position when he writes:

In short, it is logically impossible that the same thing should be known as the same by two successive copies of the same thought. As a matter of fact, the thoughts by which we know that we mean the same thing are apt to be very different indeed from each other. We think the thing now in one context, now in another; now in a definite image, now in a symbol. Sometimes our sense of its identity pertains to the mere fringe, sometimes it involves the nucleus, of our thought. (PP 454)

Indeed, much of the *Principles*’s chapter titled ‘Conception’ is dedicated to criticizing precisely the assumption that a general idea would require such a ‘repeatable core’ that would be shared by all the particular experiences of its instances. It is another version of the fallacy described earlier where ‘The thought of the object’s recurrent identity is regarded as the identity of its recurrent thought’ (PP 194). In particular, he thinks that this assumption draws from the further assumption that for an idea to be about something external to it, it must somehow *resemble* that thing. As James puts it:

It is easy to lay bare the false assumption which underlies the whole discussion of the question as hitherto carried on. That assumption is that ideas, in order to know, must be cast in the exact likeness of whatever things they know, and that the only things that can be known are those which ideas can resemble. (PP 445)

By contrast, James thinks that ‘All that a state of mind need do, in order to take cognizance of a reality, intend it, or be ‘about’ it, is to lead to a remoter state of mind which either acts upon the reality or resembles it’ (PP 445).<sup>20</sup> What is essential to our thoughts’ being about various objects and properties is their eventually ‘acting upon’ such realities, not their *resembling* them. Since this ‘acting upon’ takes place in an external (and public) environment, there is no reason to treat the resultant meanings as ‘private.’ You know what I mean by ‘blue’ not by looking in to my mind, but by seeing which things I *treat as* ‘blue.’ My dog-ideas are all dog-ideas not because they all have some common subjective kernel, but because they are all about *dogs*, and James sees no reason why the latter should require the former.

That said, even generally sympathetic commentators such as Gale and Goodman assume that James *must* be committed to a picture of language

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19 This seemed to be one line that Goodman took in his response to an earlier version of this paper (Jackman 2004).

20 For a more extended discussion of this, see Jackman 1998, forthcoming.



as private given what other things James says in that very same chapter on 'Conception.' Nevertheless, I'll argue in what follows that the relevant passages from the chapter on conception are better read as presenting a view very different from the one Goodman and Gale assume that James is endorsing.

Before discussing James's position in that twelfth chapter, it may be worth making a few remarks about James's use of the word 'conception,' since it is importantly different from the usage most familiar from contemporary philosophical discussion. Philosophers typically distinguish concepts from conceptions in terms of concepts being objective and public and conceptions being private and subjective, so that while we all may share the same water *concept*, our *conceptions* of water are all different (and changing all the time as well). If conceptions are understood this way, tying meanings to conceptions would push one towards a picture of language as private, so it is important to stress that this is *not* the way that James understands conceptions here. Rather, James thinks of conceptions in terms of neither objects in the world, nor mental states, but rather in terms of the relations between them. As he puts it:

The function by which we thus identify a numerically distinct and permanent subject of discourse is called CONCEPTION; ...The word 'conception' is unambiguous. It properly denotes neither the mental state nor what the mental state signifies, but the relation between the two, namely, the function of the mental state in signifying just that particular thing. (PP 436)<sup>21</sup>

Since conception is 'the function by which a state of mind means to think the same whereof it thought on a former occasion,' two states of mind will 'be two editions of the same conception just so far as either does mean to think what the other thought; but no farther' (PP 442).<sup>22</sup>

It is precisely this purported phenomenon of one state of mind 'meaning to think what another one does' that Gale thinks pushes James towards a

21 James then (to contemporary ears somewhat perversely) goes on to take 'Concept' to more properly pick out the *subjective* state: 'the thoughts which are [a conception's] vehicles are called concepts' (PP 436). He recognizes that 'the word 'concept' is often used as if it stood for the object of discourse itself' and concludes that 'this looseness feeds such evasiveness in discussion that I shall avoid the use of the expression concept altogether, and speak of 'conceiving state of mind' or something similar, instead.' (PP 436). Later on in the *Principles*, in the chapter on 'The Perception of "Things"' (PP, Ch. 19), James reverts to more familiar terminology, stressing 'the *difference between our psychological conceptions and what are called concepts in logic*. In logic a concept is unalterable; but what are popularly called our 'conceptions of things' alter by being used' (PP 753). James sticks with this later terminology in subsequent writings such as the discussion of Precepts and Concepts in *Some Problems of Philosophy*.

22 Note that this will allow James to tie conceptions to their extensions while still being able to insist that, say, 'hesperus' and 'phosphorus' are tied to different conceptions, since, even if they, in fact, pick out the same object, they are not intended by the speakers to do so. In more contemporary terms, 'anaphoric' co-reference types conceptions, mere co-reference isn't enough.

conception of language as private. For instance, James states that we are able to form general conceptions, because of:

A fundamental psychical peculiarity which may be entitled '*the principle of constancy in the mind's meanings*', and which may be thus expressed: '*The same matters can be thought of in successive portions of the mental stream, and some of these portions can know that they mean the same matters which the other portions meant*'. One might put it otherwise by saying that 'the mind can always intend, and know when it intends, to think of the Same'. (PP 434, italics James's)

This 'peculiarity' is later framed as the fact that 'we can at any moment think of the same thing which at any former moment we thought of', and this 'ultimate law of our intellectual constitution' (PP 920) can easily be understood in a way that quickly makes James seem like a private linguist.<sup>23</sup>

Gale is certainly right to think that 'the principle of constancy in the mind's meanings' plays an important role for James, but he gives it an unjustifiably 'epistemic' reading. In particular, Gale takes a principle of James's which is about our authority about the commitments we take on, and changes it into a principle about our authority about whether those commitments have been satisfied.

This principle or law is of a subjective character, as it is the subject's 'intention ... to think of the same', about which he cannot be mistaken, that determines the extension of his general concept over time (PP 435). 'Each thought decides, by its own authority', whether it's present content is an instance of what it formerly intended to count as an instance of the same concept. (Gale 1999, p. 164)

Gale concludes from this<sup>24</sup> that, for James, 'each subject follows an in-principle private rule in determining which individuals count as instances of a given general concept. He and he alone knows whether he is following his intentions to call these experiences instances of this concept' (Gale 1999, p. 164).

Gale then argues that James's so-called commitment to the privacy of language finds an even clearer expression in James's final work, *Some Problems of Philosophy*. In that book, James claims that with a general term like, say, 'white', we can gather together into its extension instances of white that differ in their experienced color, provided that 'we mean that our word *shall* unalterably signify' a color common to them all (Gale 1999, p. 164). The

23 Goodman agrees with Gale that 'James embraces a key component of the private language position in the 'Conception' chapter of *The Principles*, and that this key component is the assumption that 'I have the power to determine a thought as 'the same thought'' (Goodman 2002, pp. 105, 109.).

24 Indeed, the link between what follows and the quotation immediately above is simply 'In other words...'

passage Gale quotes from immediately above, and goes on to quote at greater length, runs as follows:

[W]e know that under all modifications wrought by changing light, dirt, impurity in pigment, etc., there is an element of color-quality, different from other color-qualities, which we mean that our word *shall* inalterably signify. The impossibility of isolating and fixing this quality physically is irrelevant, so long as we can isolate and fix it mentally, and decide that whenever we say 'white' that identical quality, whether applied rightly or wrongly, is what we shall be held to *mean*. Our *meanings* can be the same as long as we intend to have them so. (SPP 57)

Gale then pushes James's discussion of the possibility of error suggested in the passage above (the admission that the term can be applied 'rightly or wrongly') in a surprising direction, effectively doubling down on his 'epistemic' reading of our ability to 'think the same' by insisting:

James does allow for the possibility of the speaker 'rightly or wrongly' applying 'white', but only the speaker is able to determine whether he is correctly adhering to his own private rule. The reason is that his paradigm of whiteness, which is *a mental image private to himself*, is not in principle accessible to anyone else. It is Wittgenstein's beetle in the matchbox that is observable only by the matchbox's owner. Therefore no one else can check up on the speaker to determine whether he is consistently adhering to his rule always to call things white that have the same color as *his mental paradigm of whiteness*. (Gale 165, italics mine)

Given what we've seen before, it's hard to see how we could expect James to think that the meaning of 'white' could be determined by some private 'mental paradigm of whiteness'. If our mental states are taken to be unrepeatable, there would be no way for the subject to access this 'mental image private to himself' meant to serve as a stable qualitative paradigm for the term that would allow him to 'adhere to his own private intention always to call things 'white' that have the same color as the specimen he has mentally isolated and officially dubbed as the standard of whiteness' (Gale 164–165).

In light of these problems, I would argue that the passages above are better read as relating to the subject's ability to decide that he means the same thing by 'white' today as he did yesterday, than it is as claiming that the subject has the ability to tell whether a currently confronted sample (correctly) falls under his concept of 'white'. That one could have such authority about the commitments one takes on isn't that surprising, and deciding that one means by a term what one did yesterday doesn't require any particular *epistemic*

achievement unless you are *already* committed to something like crude empiricism about the content of our thoughts. When I say:

John went to the store. He was planning to buy a bag of nails.

I can know that ‘John’ and ‘He’ pick out the same person simply because I intend them too, the reference of ‘he’ in this case is structurally (or in more contemporary terms, anaphorically—in the broad ‘discourse anaphora’ sense), dependent on the referent of ‘John’ and doesn’t have its reference determined independently.<sup>25</sup> In much the same way, if I say.

John never liked Peter. I’m not sure why, but it’s probably because he is such a snob.

I can decide whether ‘he’ refers to John or Peter, and this isn’t because I’m particularly good at inspecting the idea associated with ‘he’ and recognizing that it matches the idea associated with, say, ‘Peter’.<sup>26</sup> The connection is structurally/anaphorically rather than epistemically determined.

Talking of these connections as ‘anaphoric’ is perhaps a somewhat anachronistic way of putting the point, but it serves to highlight that James

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25 Of course, the two sentences could be uttered in a context where ‘He’ was used demonstratively and I just happened to think that John was the person being demonstrated, but the existence of such contexts doesn’t take away from the relevance of the more typical cases where the co-reference is determined anaphorically.

26 Goodman takes issue with James’s claim that:

Each thought decides, by its own authority, which, out of all the conceptive functions open to it, it shall now renew; with which other thought it shall identify itself as a conceiver, and just how far. ‘The same A which I once meant’, it says, ‘I shall now mean again, and mean it with C as its predicate (or what not) instead of B, as before’ (PP, 442 n. 6).

According to Goodman,

Each thought at a moment has the ‘authority’, James is saying, to constitute meaning, and it can do so apart from ‘everything else in the world’: ‘Conceptualism says the mind can conceive any quality or relation it pleases, and mean nothing but it, in isolation from everything else in the world. This is, of course, the doctrine we have professed’ (PP, 444). Because of his tendency to treat both meaning and the self from ‘an exclusively first-person perspective’ James may thus have been one of Wittgenstein’s targets in his discussions of a private language, although Wittgenstein does not cite the passages previously mentioned either in the *Investigations* or in his *Notebooks*. (Goodman 2002, pp. 105–106)

Goodman here seems to be assuming that the phrase ‘in isolation from everything else in the world’ entails that James is saying that our meaning-constituting activities can take place ‘in isolation’ (so that it would be some pure mental act that requires no physical context). I’d argue instead that he is suggesting that the meanings constituted pick out particular properties ‘in isolation’ from everything else, so, say the concept of triangle picks out the shape in isolation from the colors, textures, and other properties that particular triangles may have. (This sense that concepts “exclude” all but their chosen aspect of the material they conceptualize is a running theme throughout James’s work.)

does explicitly describe this sameness as a function of the mind's *structure* rather than, say the phenomenal *content* of the ideas passing through it.

Note, however, that we are, in the first instance speaking of the sense of sameness from **the point of view of the mind's structure** alone, and not from the point of view of the universe. We are psychologizing, not philosophizing. That is, we [we psychologists, not we thinkers in general] do not care whether there be any *real* sameness in *things* or not, or whether the mind be true or false in its assumptions of it. Our principle only lays it down that the mind makes continual use of the *notion* of sameness, and if deprived of it, would have a different structure from what it has. In a word, the principle that the mind can mean the Same is true of its meanings, but not necessarily of aught besides. (PP 435, italics James's, boldface mine.)

Note that his denial that there must be any '*real* sameness' applies just as much to our ideas as to objects in the world, and for the mind to be structured so that items are recognized as the same, it doesn't need to have ideas which are themselves identical. That said, while 'the law of constancy in our meaning' is 'the most important of all the features of our mental structure' (PP. 435), James isn't really full of details about just how these structural connections work, insisting instead that:

Introspective psychology must here throw up the sponge; the fluctuations of subjective life are too exquisite to be arrested by its coarse means. It must confine itself to bearing witness to the fact that all sorts of different subjective states do form the vehicle by which the same is known; and it must contradict the opposite view. (PP 454)

This sort of structural connection is, of course, not limited to proper names and pronouns, and James makes the same sort of point about general terms like 'white'. What we are doing is not making the epistemic determination that a set of ideas are identical, but rather making the stipulation that a set of non-identical ideas are intended to pick out the same object or property. I can mean *dog* by 'dog' because (as we saw earlier) I can take all of the instances of 'dog' that I use to mean the same thing. However, my meaning the same thing by 'dog' as I meant yesterday is not some sort of *epistemic* achievement. It is not as if I need to inspect my dog-idea and remember yesterday's dog-idea reliably enough for me to judge that they are identical.

On such a reading, just because we can always intend to apply to a particular experience the same concept that we applied to another earlier experience, it does not follow that we need be *correct* in doing so (in either

case).<sup>27</sup> Quite the contrary, one might argue that it is precisely this doctrine that lets James account for error in a way that a traditional empiricist might not be able to. For instance, when I sincerely claim

(W) The piece of paper in front of me is white.

James can claim that my concept of ‘white’ is determined by me to be identical to the concept I applied last month, even if I can’t remember precisely what experiences I had back then. Indeed, someone who has better access to what I had applied the term to before might be better able to judge whether or not (W) was correct than I am. Without this ability to stipulate constancy of meaning, such mistakes would seem hard to explain. If I sincerely asserted (W), and what I meant by ‘white’ at the time were limited to what I could either call up in memory or perceive in front of me, then a crucial standard against which current use is judged, past use, would drop out.

James’s ‘principle of constancy’ does not require that we can somehow inspect past ideas and recreate them within our current thoughts unchanged. Quite the opposite. Since, the constancy is more structural than resemblance driven, the claim that what a speaker means by ‘white’ is ‘a mental image private to himself’ (Gale 1999, p. 165) has no real support from these passages from James. Such support would only come if one thought that constancy required the ability to pull up an identical (or at least extremely similar) experience in memory, and there is no reason to believe that James thought anything like this.<sup>28</sup>

James is instead better read as suggesting that what a word like ‘white’ is intended to pick out is not some private mental image, but rather the property that we presume that all/most of the things that we *call* white have in common. We may not know just what that shared quality is, but that doesn’t prevent us from intending to pick out the shared property behind the occasions of the term’s use.<sup>29</sup> When James says:

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27 In fact, James’s claim “Our *meanings* can be the same as long as we intend to have them so, quite irrespective of whether what is meant be a physical possibility or not” (SPP 57), suggests that for some terms *every* particular application of the concept to external objects might be mistaken (this last point does a lot of work in the *Principles’s* 28<sup>th</sup> chapter on necessary truth).

28 As mentioned earlier, James doubts about the repeatability of ideas would suggest just the opposite, and while the chapters of the *Principles* can often be somewhat disconnected from each other (a function of both its length, James’s style, and the 12 years spent in its composition), James explicitly calls back to this aspect of the “The Stream of Thought” in his chapter on conception, reminding us that “*nothing can be conceived twice over without being conceived in entirely different states of mind*” (PP 453, italics James’s).

29 Note that James’s view is presented here in the context of his rejecting that ‘nominalistic’ view that ‘white’ just picks out the property being *called* ‘white’ (SPP 56–57).

The impossibility of isolating and fixing this quality physically is irrelevant, so long as we can isolate and fix it mentally, and decide that whenever we say 'white' that identical quality, whether applied rightly or wrongly, is what we shall be held to *mean*. (SPP 57).

He is not saying, in the absence of discovering the precise physical property that all the things we call 'white' share, we focus instead on some qualitative *mental* property that we take to be the meaning of the term. Rather, he is saying that we can pick out the shared property by the intention to refer to the property, whatever it is, that the structurally/anaphorically linked uses of the term have in common.<sup>30</sup>

This may be less obvious with 'white' where the mentalistic understanding of the term's meaning might be tempting, but James is making a general point about our concepts in this section, not just our phenomenal ones, and James's point seems clearer with a term such as 'water', in which case the passage would read:

The impossibility of isolating and fixing this property physically is irrelevant, so long as we can isolate and fix it mentally, and decide that whenever we say 'water' that identical property, whether applied rightly or wrongly, is what we shall be held to mean. Our meanings can be the same as long as we intend to have them so.

Even if we don't know just how the property is specified (ie: we can't 'fix it physically') we can have a general intention to pick the underlying property out. James's claim that "'White" means a colour-quality which the mind creates (following no matter what cue) and which *it can decree to be there under all physical disguises*' (SPP 57, italics mine) is about positing an underlying property that the term picks out, a property which we could be wrong in attributing in individual instances. Once again, while error is explicitly allowed for here, it would not seem to be possible on the nominalist view (where white is just the property of being called 'white') that James is criticizing in those pages.

In short, James's discussion of concepts/conceptions in the *Principles's* chapter on conception and in *Some Problems of Philosophy* fails to support the contention that he understood meaning in a way that would have run afoul of the private language argument, since there is no suggestion in either that he thinks that we can always re-identify our ideas in terms of their phenomenal properties.

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30 Such chains of anaphorically linked ideas are crucial for James's account of singular reference as well. James, claims, for instance, that our idea of Memorial Hall refers to Memorial Hall because if asked to find Memorial Hall, I could go to Cambridge and identify the correct building. However, the ability of the perception to determine the reference of a concept entertained weeks, months, or even years before depends on the existence of such anaphoric links. (Needless to say, 'anaphoric' is not the way James describes such links.) (See Jackman 1998, forthcoming.)



## 4. Conclusion

There remain, of course, serious differences between Wittgenstein and James,<sup>31</sup> but (whether Wittgenstein really appreciated this or not) the question of whether meaning should be understood as ‘private’ is not one of them. The perceived distance between Wittgenstein and the (other) Pragmatists has certainly contracted over the years,<sup>32</sup> and seeing how one of Pragmatism’s founders was not committed to one of Wittgenstein’s particular *bête noires* should hopefully close that gap further.

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31 Though some of these others are often exaggerated as well. For instance, James’s discussion of the deaf-mute Ballard and the possibility of ‘thought without language’ is typically presented by Wittgensteinians as focusing on the question of whether a creature *entirely* without language could engage in thought (see for instance, Goodman 2002, p. 127), while James’s actual texts seems more focused on the question of whether there could be *particular* thoughts that were not linguistically represented by the thinker, who may or may not express some of their other thoughts in language.

32 See, for instance, Rorty 1979, Putnam 1995 (esp. ch. 2, ‘Was Wittgenstein a Pragmatist?’), Goodman 2002, and more recently Boncompagni 2016 and Misak 2016.

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## WITTGENSTEIN AND PRAGMATISM REVISITED

**Abstract.** *I've been teaching Wittgenstein's *On Certainty* lately, and coming again to the question of Wittgenstein's relation to pragmatism.<sup>1</sup> This is of course a question Wittgenstein raises himself when he writes in the middle of that work: 'So I am trying to say something that sounds like pragmatism'.<sup>2</sup> He adds to this sentence the claim that 'Here I am being thwarted by a kind of *Weltanschauung*', but in the remarks to follow I want to focus not on Wittgenstein's differences from or antipathy to pragmatism, nor on the world view that he felt thwarted him, but on those elements of his philosophy that sound like pragmatism—as he says. I will work primarily from *On Certainty* but also from the *Philosophical Investigations*, which intersects with that late, unfinished work at various places, and which also, at times, sounds like pragmatism.*

### 1. Certainty and Life

When I was in China recently trying to explain *On Certainty* to a class of undergraduates, most of whom had never studied philosophy before, I found myself walking up and down the center aisle of the classroom—as I might normally do when I lecture—but this time as an example of an ability that I rely on in my ordinary life. After walking awhile and reminding the students that I rely on the floor continuing to support me, and on my legs supporting and propelling me as I walk, I turned back towards the front of the room and took my seat. The chair did not surprise me; it supported my weight. I pointed out that I could get up from the chair, sit down again, and it would support me again.

What a great world! I *trust* the world, and trusting *works* for me and the other animals on the planet. Yes, I might slip on a wet spot as I walk, or sit down hard on a chair which creaks or cracks, but these are exceptions that prove the rule. I do not trust the slippery rocks of a fast flowing river that I walk on while fly fishing; but I trust the ground, normally. You can tell my certainty or lack of it by the way I walk in each case. 'Don't ask what goes on in us when we are certain,' Wittgenstein counsels in the *Investigations*, but rather consider how the certainty is 'manifested in people's actions.'<sup>3</sup> This

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1 See Russell B. Goodman, *Wittgenstein and William James*.

2 Ludwig Wittgenstein, *On Certainty* (OC), 422.

3 Ludwig Wittgenstein, *Philosophical Investigations* (PI) 2:339.

manifestation in ‘people’s actions’ is a link to pragmatism, a philosophy that William James tells us is based on the Greek word for action.

Early in *On Certainty* Wittgenstein writes: ‘My life shows that I know or am certain that there is a chair over there, or a door, and so on.’<sup>4</sup> I show my certainty that there is a chair there by sitting in it, or moving it aside. I show my certainty that I am writing English by effortlessly typing this sentence as I think it. Wittgenstein’s term ‘comfortable certainty’ applies to these cases. Rather than an example of ‘hastiness or superficiality,’ comfortable certainty, he writes, is ‘a form of life.’<sup>5</sup> Such forms of human life, Wittgenstein suggests, are ‘the given’— as fundamental as anything we might find that could ground or support them: ‘What has to be accepted, the given, is —one might say — *forms of life*.’<sup>6</sup>

In the *Investigations* Wittgenstein considers what he calls our natural history: ‘Giving orders, asking questions, telling stories, having a chat, are as much a part of our natural history as walking, eating, drinking, playing.’<sup>7</sup> I’ve been attending to the certainty that pervades the parts of our natural history called walking and sitting. These are interesting cases because they differ from many of the examples Wittgenstein talks about in *On Certainty*, which are framed in terms of propositions—such as that the world has existed for many years before I was born, or that my name is Russell Goodman. Walking and sitting are not propositions but things we do. (Of course *using* language is also something we do.) Walking and sitting may nevertheless be normative, in the sense that one can do them well or properly, or not. But like all the features of our human form of life that Wittgenstein mentions, they reveal a vast, deep level of certainty.

## 2. Certainty and Belief

Much of the work of *On Certainty* lies in drawing our attention to the certainty of our ordinary beliefs, some quite particular, some general, as if to remind us of something we forget when we do philosophy. For example:

For months I have lived at address A, I have read the name of the street and the number of the house countless times, have received countless letters here and given countless people the address. If I am wrong about it, the mistake is hardly less than if I were (wrongly) to believe I was writing Chinese.<sup>8</sup>

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4 OC, 7.

5 OC, 357, 8.

6 PI 2:345. For recent discussions of this concept see Anna Boncompagni, ‘From the Ground to the Background. Form of Life as ‘the given’ in Wittgenstein’; and her *Wittgenstein and Pragmatism*.

7 PI, 25.

8 OC, 70.

Or again:

I am in England—Everything around me tells me so; wherever and however I let my thoughts turn, they confirm this for me at once. – But might I not be shaken if things such as I don't dream of at present were to happen?<sup>9</sup>

This second quotation is the one that triggers Wittgenstein's claim that he is saying something that sounds like pragmatism. So the pragmatism that sounds like his philosophy is a pragmatism that displays the authority of ordinary human life.

In the above passages, Wittgenstein tries to show us that there is *no room* for radical skepticism in our lives. There is room, of course, for doubt about real problems (where did I leave my wallet?) and for investigations that overcome particular doubts. But these investigations take place against the background of the certainties to which Wittgenstein draws our attention.

Now the distinction between real doubt and the artificial doubt of philosophers like Descartes is central to Charles Sanders Peirce's pragmatism, as developed in his foundational pragmatist paper, 'The Fixation of Belief.' Peirce writes:

Some philosophers have imagined that to start an inquiry it was only necessary to utter a question or set it down upon paper, and have even recommended us to begin our studies with questioning everything! But the mere putting of a proposition into the interrogative form does not stimulate the mind to any struggle after belief. There must be a real and living doubt, and without this all discussion is idle.<sup>10</sup>

Real and living doubt includes many things, from the question of where I left my house keys last night, to the issue of how to reverse global warming. But it does not include the question of whether I'm now writing in English, or whether the world has existed for more than the past five minutes.

Wittgenstein points to the ways in which human life proceeds without artificial or 'absolute' certainty. 'My *life*,' he writes, 'consists in my being content to accept many things.'<sup>11</sup> Peirce makes a similar point about logic, demonstration, and inquiry:

It is a very common idea that a demonstration must rest on some ultimate and absolutely indubitable propositions. These, according to one school, are first principles of a general nature; according to another, are first sensations. But, in point of fact, an inquiry, to have that completely satisfactory result called demonstration, has only to start

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9 OC, 241

10 Charles Sanders Peirce, 'The Fixation of Belief,' 115.

11 OC, 344.

with propositions perfectly free from all actual doubt. If the premises are not in fact doubted at all, they cannot be more satisfactory than they are.<sup>12</sup>

If I were not content to accept many things I would have a very different and stressful life, perhaps an impossible life. (Could I sincerely doubt, at every moment, that the ground might give way, etc.?) Given the way nature is, including me as a part of nature, it *works*, it proves satisfactory, to accept these things. Wittgenstein reminds us, however, that: 'It is always by favor of Nature that one knows something.'<sup>13</sup> We learn to rely on Nature's favor as part of learning to inherit a picture of the world.

### 3. James on Common Sense

William James has his own way of legitimating ordinary life in *Pragmatism's* fifth chapter, 'Pragmatism and Common Sense.' 'Common sense' is his term for a set of 'fundamental ways of thinking' that constitute 'one great stage of equilibrium in the human mind's development.' Two later stages of thinking and acting, science and philosophy, 'have grafted themselves upon this stage, but have never succeeded in displacing it.'<sup>14</sup>

James's account is in terms of concepts or categories, and has both a Kantian and a pragmatic ring to it: 'All our conceptions are what the Germans call *Denkmittel*, means by which we handle facts by thinking them. Experience merely as such doesn't come ticketed and labelled ... Kant speaks of it as being ... a mere motley which we have to unify by our wits.'<sup>15</sup> The 'old common-sense way' of rationalizing or unifying the manifold of experience is through a set of concepts that James lists as follows:

Thing;  
 The same or different  
 Kinds;  
 Minds;  
 Bodies;  
 One Time  
 One Space;  
 Subjects and Attributes;  
 Causal Influences;

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12 Peirce, 115.

13 OC, 505.

14 James, *Writings 1902-1910*, 560. Cf. Wittgenstein: 'When I talk about language (word, sentence, etc.) I must speak the language of every day. ... In giving explanations, I already have to use language full-blown (not some sort of preparatory, provisional one); (PI, 120).

15 James, 561.



The fancied;  
The real.<sup>16</sup>

This open-ended list of common sense categories (which owes much to Kant, as James concedes<sup>17</sup>) represents our ancient, basic understanding of, and commerce with, the world. We learn to ‘rationalize’ a world of constant change, by such terms as *night* and *day*, *weather*, and *seasons*. It has become natural for us to think in these terms, so that we forget that they were actually discovered or invented by people — ‘prehistoric geniuses’ James calls them, ‘whose names the night of antiquity has covered up.’ These concepts first fit only ‘the immediate facts of experience.’ But they ‘spread ... from fact to fact and man to man... until all language rests on them and we are now incapable of thinking naturally in any other terms.’<sup>18</sup> These comfortable common sense certainties, inextricable elements of our lives, become a kind of second nature that we use even as we challenge common sense through science and philosophy. ‘Common sense,’ James concludes, ‘is better for one sphere of life, science for another, philosophic criticism for a third; but whether either be truer absolutely Heaven only knows.’<sup>19</sup>

#### 4. Action and Movement

James tells us that the term *pragmatism* comes from the Greek *pragma*, ‘meaning action, from which our words “practice” and “practical” come.’<sup>20</sup> The idea of action figures most clearly in the criterion of meaning that James inherits from Peirce, where the clarification of a thought’s meaning is said to require consideration of the ‘conceivable effects of a practical kind the object may involve, ... and what reactions we must prepare.’<sup>21</sup> In setting out James’s views about common sense I’ve had little to say about action specifically because James himself says little about it when discussing common sense. But the value of the categories of common sense, science, and philosophy comes, in great part, from their ability to guide our actions, to allow us to move ‘prosperously’ from one part of our experience to another, as James thinks of it. This is the territory James explores in his ‘theory of truth,’ both in the second chapter of *Pragmatism*, ‘What Pragmatism Means,’ and in the entire fifth chapter, entitled, ‘Pragmatism’s Theory of Truth.’ This is an immensely complicated subject of course, but I touch on it here because I find it most helpful to think of James’s remarks about truth not as a definition of truth

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16 James, 561–2.

17 James, 561, 595.

18 James, 566.

19 James, 569.

20 James, 506.

21 James, 506–7.

(e. g. ‘truth is what works’), but as a phenomenology of truth, or simply an account of the role truth plays in our lives. Thinking of truth this way allows us to see more clearly the parallels between James’s common sense truths and Wittgensteinian framework or ‘hinge’ propositions.

Truth, James writes, is a species of good, like health and wealth. Its particular form of goodness lies in ‘providing conceptual short-cuts’<sup>22</sup> (as with the terms *weather* and *seasons*, discussed above), enabling us to move through the world with ‘a minimum of jolt.’<sup>23</sup> ‘Any idea on which we can ride,’ James writes, ‘any idea that will carry us prosperously from any one part of our experience to any other part, linking things satisfactorily, working securely, simplifying, saving labor; is true for just so much, true in so far forth, true instrumentally.’<sup>24</sup>

In a revealing metaphorical congruence, Wittgenstein also portrays us as riding our beliefs when he wonders, late in *On Certainty*, whether he might be able to ‘stay in the saddle however much the facts bucked.’ He is thinking of such facts as that water boils rather than freezes, or that someone he has known for years is N. N. Perhaps, he surmises, ‘if I were contradicted on all sides and told that this person’s name was not what I had always known it was (and I use “know” here intentionally), then in that case the foundation of all judging would be taken away from me.’<sup>25</sup> A few paragraphs later he considers ‘an irregularity in natural events’ (like objects randomly disappearing and reappearing or water turning to ice when one puts it on a hot stove). Such an irregularity, he writes, ‘wouldn’t *have* to throw me out of the saddle,’<sup>26</sup> but it might ‘put me into a position in which I could not go on with the old language-game any further. In which I was torn away from the *sureness* of the game.’<sup>27</sup> Wittgenstein’s main point here is that the possibility of a language-game is conditioned by certain facts,<sup>28</sup> but I want to emphasize his portrayal of our language as ‘good for conveyance,’ to use Emerson’s phrase. If the facts buck too much, one may not be able to travel at all; one would be plunged ‘into chaos.’<sup>29</sup>

The idea of movement or transportation also figures in Wittgenstein’s metaphor of the river and its banks. The banks are relatively but not absolutely stable, composed both of sand and of hard rock. They provide the channel or channels through which the waters move. ‘I distinguish,’ Wittgenstein writes,

22 James, 512.

23 James, 513.

24 James, 512. Cf. Emerson’s idea that: ‘All language is vehicular and transitive, and is good, as horses and ferries are, for conveyance, not, as farms as houses are, for homestead.’ (‘The Poet,’ in *Collected Essays of Ralph Waldo Emerson*, 3:20.)

25 OC, 614.

26 OC, 619.

27 OC, 617.

28 OC, 617.

29 OC, 613.

'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.'<sup>30</sup> One might construe the movement of the waters as parallel to James's 'motley' or everlasting weather of experience, constrained and guided by the categories/banks of the river. Or taking a more nuanced view, we may see the moving waters as themselves part of the foundation. The waters would then represent propositions such as 'I am N. N.' or 'I am in England,' with the banks of the river constituted by the more enduring propositions that form our picture of the world (e. g., 'the world has existed for more than five minutes').<sup>31</sup> Yet again, keeping in mind that the foundations may not be propositional so much as active, one might construe the waters as the human form of life, our commerce with each other and the world, within the enduring but not eternal context of our picture of the world.<sup>32</sup> In this case too, the 'foundations' would be both the flowing waters and the enduring banks. As Joachim Schulte puts the point: 'The river-bed, that section of the whole which stands fast, does part—but only part—of the work while the river itself with its mobile waters does another, and surely not less important, part of the job.'<sup>33</sup>

Wittgenstein's picture of language in the *Investigations*, starting with his simple 'builders' game introduced in its second paragraph, brings language into prominence as a set of activities, such as 'reporting an event,' 'giving orders,' 'acting in a play,' telling a joke, 'requesting, thanking, cursing,' and 'countless' others. The term *language-game*, he explains, serves 'to emphasize the fact that the *speaking* of language is part of an activity, or of a form of life.' In *On Certainty*, as we have seen, what we do, our actions and deeds—not random but ordered by our language games and our picture of the world—are the foundation of our system of belief. 'Giving grounds,' Wittgenstein writes, 'justifying the evidence, comes to an end;—but the end is not certain propositions' striking us immediately as true, i.e. it is not a kind of *seeing* on our part; it is our *acting*, which lies at the bottom of the language-game.'<sup>34</sup>

## 5. Anti-intellectualism

James writes that pragmatism is 'anti-intellectualistic,' by which he means that pragmatism is broadly empiricist, turning away from 'bad *a priori* reasons,

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30 OC, 97.

31 As suggested by Joachim Schulte, 'Within a System,' 64 ff.

32 Cf. Schulte, 67.

33 Schulte, 66.

34 OC, 204. Cf. OC, 402, where Wittgenstein quotes Goethe's *Faust*: "In the beginning was the deed." Our acting is fundamental, but it is interwoven with our beliefs and concepts, so that, as Wittgenstein also writes, "one might almost say that these foundation-walls are carried by the whole house" (OC, 248).

from fixed principles, closed systems, and pretended absolutes and origins.<sup>35</sup> Among these pretended absolutes and origins are the seeming ‘magic’ of language and theory. For the pragmatist, James explains: ‘Theories become instruments, not answers to enigmas, in which we can rest.’<sup>36</sup> Three years after James published *Pragmatism* in 1907, John Dewey published a paper called ‘Some Implications of Anti-Intellectualism,’ where he presents a positive picture of such a view. He writes of a ‘pragmatic anti-intellectualism that starts from acts, functions, as primary data, functions both biological and social in character,’ and which objects to the ‘false abstraction of knowledge and the logical from its working context.’<sup>37</sup> Although Wittgenstein never expressed any appreciation for Dewey, this is a reasonable description of a main current in Wittgenstein’s later philosophy. Dewey’s ‘functions both biological and social,’ for example, map onto what Cavell calls the biological or vertical (dogs, lions, flies, human beings) and the social or horizontal (stating, asking, praying, singing) dimensions of the human form of life. Cavell writes that ‘the typical emphasis on the social eclipses the twin preoccupation of the Investigations, call this the natural, in the form of ‘natural reactions’ (185) ... or ‘the common behavior of mankind’ (206). The partial eclipse of the natural makes the teaching of the Investigations much too, let me say, conventionalist...’<sup>38</sup>

This idea of ‘starting from acts, functions, as primary data,’ to use Dewey’s words, is the point at which people have seen a connection between Wittgenstein and Heidegger, who writes in *Being and Time*:

Interpretation is carried out primordially not in a theoretical statement but in an action of circumspective concern—laying aside an unsuitable tool, or exchanging it, ‘without wasting words.’ From the fact that words are absent, it may not be concluded that interpretation is absent.<sup>39</sup>

We interpret the world through our actions. The child learns what an object is on the way to language, as it manipulates objects. These practical activities lie at the basis of the human form of life, including human language, according to Dewey, Wittgenstein, and Heidegger; and for their contemporary inheritor Robert Brandom.<sup>40</sup>

Although James introduces the term *anti-intellectualism* to describe his own pragmatic outlook, in his account of that deep layer of thought he calls

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35 James, 509.

36 James, 509–10.

37 John Dewey, ‘Some Implications of Anti-Intellectualism,’ 479.

38 Stanley Cavell, ‘Declining Decline: Wittgenstein as a Philosopher of Culture,’ 41.

39 Martin Heidegger, *Being and Time*, 200.

40 See Robert Brandom, ‘Heidegger’s Categories in *Being and Time*,’ where he writes: ‘The inhabitant of a Heideggerian world is aware of it as composed of significant equipment, caught up in various social practices, and classified by the involvements those practices institute’ (307–8).

common sense he is more intellectualistic—more Kantian, more rationalist—than the three writers mentioned above. That's because he thinks of that common sense layer always in terms of categories or concepts, and hardly at all explicitly in terms of actions that are the basis for these categories. So in this respect, Wittgenstein, Dewey, and Heidegger are more thoroughly pragmatic than James!

## 6. Decentering Knowledge

Modern philosophy, as understood in America and Britain, centers on problems of knowledge, and especially, in Dewey's apt phrase, on a 'quest for certainty.'<sup>41</sup> The pragmatists displace a conception of knowledge based on certainty from the center of concern. The empirical sciences, which give us reliable results but not certainty, are crucial for the pragmatists James and Peirce, who both studied at the Lawrence Scientific School at Harvard (Peirce was awarded a B. S. in chemistry in 1863, James continued his studies at the medical school and received his M. D. in 1869). Rather than thinking of science, or any other subject, as aiming at a fixed, perfect system, they focus on human beings as inquirers, seeking beliefs that guide us through life. Thus in Peirce's great originating paper on 'The Fixation of Belief,' he writes: 'The irritation of doubt causes a struggle to attain a state of belief. I shall term this struggle *inquiry* ...'<sup>42</sup> Peirce then discusses various ways of fixing beliefs, arguing that experimental, fallibilistic science is the only method that does not call itself into question. Likewise, James speaks in *Pragmatism* of successful 'ways of thinking,' 'conceptual systems,' 'types of thought,' 'types of thinking,' and he holds, in true fallibilist fashion, that these 'are all but ways of talking on our part, to be compared solely from the point of view of their use.'<sup>43</sup> 'Knowledge,' the center of interest in works from Descartes's *Meditations on First Philosophy* to Russell's *Foundations of Empirical Knowledge*, does not appear in these discussions. What does appear is a deep layer of common sense and practical coping, and the evolving structures of science and philosophy that result from those transactions with the world the pragmatists call *inquiry*.

Wittgenstein graduated in 1908 from the Technische Hochschule in Berlin, and first came to England in 1911 to study aeronautical engineering at the University of Manchester. But in contrast to James and Dewey, he sharply separates philosophy from science—in both his early and later writing. Yet like the pragmatists, he is suspicious of the emphasis philosophers place on

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41 John Dewey, *The Quest for Certainty*.

42 Peirce, 'The Fixation of Belief,' 114.

43 James, 560, 561, 568, 569, 570.

the concept of knowledge: 'We just do not see how very specialized the use of "I know" is.'<sup>44</sup>

Is knowledge nevertheless the basis for our other beliefs? Wittgenstein's answer is no: 'Why,' he asks, 'should the language game rest on some kind of knowledge?'<sup>45</sup> He tells us in the *Investigations* that he is 'talking about the spatial and temporal phenomenon of language, not about some non-spatial, atemporal non-entity.'<sup>46</sup> When we 'look and see' how we actually use our language, as he frequently enjoins us to do, we see the degree to which philosophers engage in what Dewey calls 'false abstraction' from the 'working context.' Wittgenstein's term for this abstraction is language 'on holiday,'<sup>47</sup> and his call for a return to ordinary language is a call for an understanding of language at work.

## 7. History

We have seen that for James our concepts are 'discoveries of prehistoric geniuses,' and that even in advanced science and mathematics, there are conceptual revolutions and a plurality of plausible formulations and explanations. Nevertheless, James holds that we are conservatives about the older beliefs that have worked well for us in the past: 'The most violent revolutions in an individual's beliefs leave most of his old order standing. Time and space, cause and effect, nature and history, and one's own biography remain untouched.'<sup>48</sup> Still, no belief is absolutely fixed, these revolutions do occur, and there are gentler changes in language and belief.

Wittgenstein also offers historicized pictures of language and certainty in his later work, in sharp contrast with his approach in the *Tractatus*, where a set of 'unalterable and subsistent'<sup>49</sup> objects are the ground of meaning. In the *Investigations* he portrays language as a city: 'Our language can be regarded as an ancient city: a maze of little streets and squares, of old and new houses, of houses with extensions from various periods, and all this surrounded by a multitude of new suburbs with straight and regular streets and squares.'<sup>50</sup> Cities are stable but also in flux, with neighborhoods that last for centuries, others that are transformed or destroyed, and the 'new suburbs' to which Wittgenstein refers. They fit the natural landscape even as they express human desires and customs.

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44 OC, 11.

45 OC, 477.

46 PI, 108.

47 PI, 38.

48 James, 513.

49 Ludwig Wittgenstein, *Tractatus Logico-Philosophicus*, 2.0271.

50 PI, 18.

In *On Certainty* Wittgenstein uses the metaphor of the river and its banks to represent our historically evolving beliefs:

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.<sup>51</sup>

I distinguish between the movements 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.<sup>52</sup>

Like James, Wittgenstein offers an account of these propositions not in terms of the objects or situations that they represent, but in terms of their functions in guiding our life and thought. The moving waters of the river take us places, and we move smoothly if we keep track of where the banks and shallows are.

## 8. Holism

Wittgenstein writes that we inherit a picture of the world that includes such grand ideas as that there is a past and a future, and such quotidian beliefs as that my name is N. N. or that I haven't been to the moon. 'I did not get my picture of the world by satisfying myself of its correctness,' he writes, 'nor do I have it because I am satisfied of its correctness. No: it is the inherited background against which I distinguish between true and false.'<sup>53</sup>

Wittgenstein speaks of a 'picture' and a 'background' in the sentence above; and a few paragraphs later speaks of a 'system':

All testing, all confirmation and disconfirmation of a hypothesis takes place already within a system. And this system is not a more or less arbitrary and doubtful point of departure for all our arguments; no, it belongs to the essence of what we call an argument. The system is not so much the point of departure, as the element in which arguments have their life.<sup>54</sup>

Suppose, Wittgenstein imagines, someone says that people routinely go to the moon, though he doesn't know how. This person says: 'those who get there know at once that they are there; and even you can't explain everything.' But how does this fit in with the other things we know? '[O]ur whole system

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51 OC, 96.

52 OC, 97.

53 OC, 94.

54 OC 105.



of physics demands answers to the questions “How did he overcome the force of gravity?” “How could he live without an atmosphere?” and a thousand others which could not be answered.’ We can’t *refute* someone who persists in maintaining that these things routinely happen, but ‘we should feel ourselves intellectually very distant from someone who said this.’<sup>55</sup> And it is a fact that most people don’t believe this, though the capacity of human beings for believing systems of false beliefs is perhaps greater than Wittgenstein registers in his book.

James also thinks we inhabit a system of beliefs, with a core, ancient ‘stock’ that has proved itself so well that we are reluctant to give it up. He writes that ‘by far the most usual way of handling phenomena so novel that they would make for a serious rearrangement of our preconceptions is to ignore them altogether, or to abuse those who bear witness for them.’<sup>56</sup> If enough contrary evidence or a new way of looking at things comes along, we may make a serious rearrangement of our beliefs—as we have, James observes, in accepting non-Euclidean geometry.<sup>57</sup> On a less global scale, but equally showing the way our beliefs are related to one another, James constructs this example: ‘If I should now utter piercing shrieks and act like a maniac on this platform, it would make many of you revise your ideas as to the probable worth of my philosophy.’<sup>58</sup> We are ‘extreme conservatives’ in matters of belief, though, ‘stretching them just enough to make them admit the novelty, but conceiving that in ways as familiar as the case leaves possible.’<sup>59</sup>

## 9. Skepticism

Skepticism is a powerful influence, even if subject to attack, throughout Wittgenstein’s philosophy. When we encountered Peirce’s dismissal of radical, Cartesian skepticism and his contrasting, pragmatic notion of ‘real doubt’ in section 2 above, my point was that Wittgenstein does not seek absolute certainty any more than the pragmatists do. But there is nevertheless a big difference here in that Wittgenstein is *haunted* by skepticism. He *inscribes* his battles with skepticism, including powerful statements of the skeptical voice (what Cavell calls ‘the voice of temptation’) within *On Certainty* and the *Investigations*, as if skepticism can never fully be dismissed. To read Wittgenstein is to seriously grapple with skepticism.

To read the pragmatists is to consider writers who avoid, evade, or simply do not feel skepticism’s pull. Once Peirce makes his point about real

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55 OC, 108.

56 James, 513.

57 James, 511.

58 James, 514.

59 James, 513.

(experimental) vs. artificial (Cartesian) doubt, he is untroubled thereafter by the threat of radical skepticism. He just proceeds with his theory of inquiry, his account of significance, and myriad other projects. And while William James attacks rationalist system builders for their isolation from real life, he ignores the threat of radical skepticism entirely in *Pragmatism*. His tone is so cheerful: pragmatism will get so many things done! I think this cheerful tone and confident expectation of continuing progress is part of the Weltanschauung which Wittgenstein felt was thwarting him.

Yet there is a deep appreciation of a kind of skepticism in the book of James that Wittgenstein loved: *Varieties of Religious Experience*. Here I'm thinking along with Cavell about skepticism as a *lived condition*, something one finds depicted in *Othello* and *King Lear*, in Coleridge's *Rime of the Ancient Mariner*, and in Thoreau's observation in *Walden* that most people lead 'lives of quiet desperation.'<sup>60</sup> James's depictions of the 'sick soul,' of 'conversion' and the 'twice-born' in *Varieties* show human life in periods of despair and deep uncertainty; and then, sometimes, in a recovery in which 'the sufferer, when saved, is saved by what seems to him a second birth, a deeper kind of conscious being than he could enjoy before.'<sup>61</sup> 'The normal process of life,' James observes, 'contains moments as bad as any of those which insane melancholy is filled with, moments in which radical evil gets its innings and takes its solid turn.'<sup>62</sup> This is skepticism not as a philosophical method, but as an outlook on life, one that, James argues, yields a more complete picture of the world than the sunny disposition of the 'once born.' James's heroes John Bunyan and Leo Tolstoy share this more complete, 'twice-born' view.

## 10. An Argument

Wittgenstein says in the *Investigations* that he does not seek anything scientific in philosophy, that he does not seek theories or explanations, but rather 'description alone.'<sup>63</sup> His simple invented language games, for example, are 'not preliminary studies for a future regimentation of language,' but rather, '*objects of comparison* which, through similarities and dissimilarities are meant to throw light on features of our language.'<sup>64</sup> One may also say of the arguments appearing in the *Investigations*, that they are in service not to the construction of some new system of language or knowledge, but to the 'description' or overview of the language we already live in, often by

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60 Stanley Cavell, *The Claim of Reason: Wittgenstein, Skepticism, Morality, and Tragedy* and *In Quest of the Ordinary: Lines of Skepticism and Romanticism*.

61 James, 146.

62 James, 152.

63 PI, 109.

64 PI, 130.

destroying the philosophical theories that prevent us from properly taking it in. The most famous of these Wittgensteinian arguments is the so-called ‘private language argument’ that appears first at PI 202, and then at PI 243 ff.

*On Certainty* has its own set of powerful anti-skeptical arguments. Here are some examples:

If you are not certain of any fact, you cannot be certain of the meaning of your words either.<sup>65</sup>

If you tried to doubt everything you would not get as far as doubting anything. The game of doubting itself presupposes certainty.<sup>66</sup>

The argument ‘I may be dreaming’ is senseless for this reason: if I am dreaming, this remark is being dreamed as well—and indeed it is also being dreamed that these words have any meaning.<sup>67</sup>

James doesn’t produce anything like these arguments, nor does he seem especially motivated to in *Pragmatism’s* sanguine accounts of truth, religion, and temperament. However, Peirce does produce a similar argument in the ‘The Fixation of Belief,’ where he writes of Descartes: ‘The distinction between an idea *seeming* clear and really being so, never occurred to him.’ This is a criticism based not on Descartes’s (unnoticed and unjustified) certainty about the meaning of his words (as in *On Certainty*), but on his (unnoticed and unjustified) certainty about what he thinks of as the *clarity* of his ideas. In these lines of argument Peirce and Wittgenstein share a focus on whether we can be sure about what we are *thinking* when we pursue the project of radical doubt, and hence whether the project can even proceed.<sup>68</sup>

## 11. Conclusion: The *Weltanschauung*

I have touched on some places in Wittgenstein’s writings that sound like pragmatism. In conclusion I’d like to attend to one difference that might help us understand what Wittgenstein means when he says that he is being thwarted by some sort of *Weltanschauung* or world view. What is this world view and in what way does it thwart him? We find it expressed, I suggest,<sup>69</sup> in the sketch of a Foreword that Wittgenstein composed in 1930 for a book he envisioned calling *Philosophical Remarks*:

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65 OC, 114.

66 OC, 115.

67 OC, 383.

68 See the discussion of these arguments in Andy Hamilton, *Routledge Philosophy Guidebook to Wittgenstein and On Certainty*; and compare Jacques Derrida, ‘Cogito and the History of Madness.’ For Wittgenstein’s relation to Peirce and Frank Ramsey see Cheryl Misak, *Cambridge Pragmatism: From Peirce and James to Ramsey and Wittgenstein*.

69 Cf. my *Wittgenstein and William James*, 167 ff.

This book is written for those who are in sympathy with the spirit in which it is written. This is not, I believe, the spirit of the main current of European and American civilization. The spirit of this civilization makes itself manifest in the industry, architecture and music of our time, in its fascism and socialism, and it is alien and uncongenial to the author. ...

Our civilization is characterized by the word 'progress.' Progress is its form rather than making progress being one of its features. Typically it constructs. It is occupied with building an ever more complicated structure. ... I am not interested in constructing a building, so much as in having a perspicuous view of the foundations of possible buildings. ...

I might say: if the place I want to get to could only be reached by way of a ladder, I would give up trying to get there. For the place I really have to get to is a place I must already be at now.<sup>70</sup>

I know that these remarks, from 1930, are as much in the spirit of Wittgenstein's Tractarian philosophy as they are in that of his later philosophy, where his anxieties about his relation to pragmatism show up. But I still think that they represent a main current in his later thought.

My purpose here in quoting these remarks is to see what the 'Weltanschauung' might be which thwarts Wittgenstein. Let's recall, listen again, to a short passage from James's *Pragmatism*:

Any idea on which we can ride, any idea that will carry us prosperously from any one part of our experience to any other part, linking things satisfactorily, working securely, simplifying, saving labor; is true for just so much, true in so far forth, true instrumentally.<sup>71</sup>

I imagine Wittgenstein reading this passage (there's no evidence that he did) and thinking: 'this sounds like an advertisement for an automobile or a washing machine. It shows the naive optimism of an American who is misled by a fraudulent or superficial form of progress.' I don't say this would be fair to James but only that this passage can be heard as expressing the sort of vision and tone that Wittgenstein disliked, and that he rightly associated with some forms of pragmatism. It's the sort of passage, I suppose, that Professor Anscombe had in mind when she told me that she was sure both that Wittgenstein hadn't read *Pragmatism* and that if he had, he would have hated it.<sup>72</sup>

70 Ludwig Wittgenstein, *Culture and Value*, 6–7.

71 James, 512.

72 Goodman, *Wittgenstein and William James*, ix. Nevertheless, James discusses pragmatism in the 'Philosophy' chapter of *Varieties of Religious Experience*, and there are elements of pragmatism in *The Principles of Psychology* (*Wittgenstein and William James*, 151–4, 18–19, 148–9). For Wittgenstein's encounter with pragmatism through Bertrand Russell and G. E. Moore, see *Wittgenstein and William James*, 12–16.

Wittgenstein might not have liked that book very much, but I think he was right to sense deep affinities and compatibilities between his work and that of the pragmatists. Potent blendings of these streams of philosophy can be seen in the writing of the most prominent and influential pragmatist philosophers of our era: Richard Rorty, Hilary Putnam, and Robert Brandom.

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## WITTGENSTEIN'S 'IMPOSSIBLE' COLORS: TRANSPARENT WHITES AND LUMINOUS GRAYS

**Abstract.** *In the book Remarks on Colors, Wittgenstein has claimed that transparent white objects do not and cannot exist, and that they cannot even be imagined. He had also claimed that luminous gray does not exist and cannot even be conceived. However, his arguments which aim to identify contradictory features of hypothetical transparent white media rely on incorrect assumptions about their properties and effects. Furthermore, some real objects and atmospheric phenomena can have features of transparent white media. As concrete examples of Wittgenstein's 'impossible' colors, this paper contains two simple computer-generated graphical displays, one depicting a scene that includes a transparent white sheet, and another which conveys the impression of luminous gray.*

### Introduction

Ludwig Wittgenstein has discussed color-related issues in a number of works throughout his life (Westphal, 2017). Some of his last notes on such topics were assembled by editors into a book called 'Remarks on color' (Wittgenstein et al., 1977). The book is divided into three parts (I, II, and III), but the order in which the material was written was probably II-III-I (Lugg, 2014b). In this paper I will discuss Wittgenstein's claims that two types of color impressions do not and cannot exist: transparent whites and luminous grays; note that 'converse' cases of transparent grays and luminous whites are well-known non-controversial phenomena. My discussion will be mainly based on remarks contained in Part I of the book, which probably presents the most mature expression of his thoughts on the subject (although many identical and very similar statements can be found in Part III as well, which I will occasionally also quote). I will not address the contents of some remarks in Part II which do not reappear in Part I, involving the 'cloudy' character of white. A thorough exposition of Wittgenstein's thoughts on transparent white was presented by Lugg (2014a).

Subsequent philosophical discussions of Wittgenstein's theses have generally neglected luminous grays and have mainly addressed the non-transparency of white. Accepting this claim as true, they differed as to whether

its truth was part of the logic or grammar of colors (Horner, 2000; Gilbert, 1987; Gierlinger, 2009) or could be explained by some physical properties of whiteness and opacity (Westphal, 1986; Hardin, 1985). The only paper by psychologists dealing with Wittgenstein's remarks, to my knowledge, is by da Pos et al. (2014), who noted that psychological theories of perception of transparency do not necessarily rule out the existence of transparent whites, and claimed that transparent white objects, such as veils, do exist. In this paper I agree with da Pos et al. in this respect, but also present actual displays which can reasonably be described as depictions of transparent whites and luminous grays. Furthermore, I claim that Wittgenstein's analyses of effects of transparent media misrepresent some of their physical and perceptual aspects, rendering their conclusions invalid.

## Transparent Whites

As a source of the claim that white cannot be transparent, Wittgenstein cites a letter of the painter Runge to Goethe, which contains the statement that there are transparent and opaque colors, and that white is opaque (see remark I-17 in Wittgenstein et al., 1977, p. 5a). Wittgenstein then asks 'Why is it that something can be transparent green but not transparent white?' (remark I-19). 'Green' here stands for any other *chromatic* color, such as red, yellow, blue etc., which can be transparent. White, together with black and shades of gray, belongs to *achromatic* colors; these are technical terms, not used by Wittgenstein. Note that his claim is not only that, as a matter of fact, there *are no* transparent white objects, but that there *couldn't be* such objects. He takes it for a fact that nothing can be transparent and white, and proceeds to look for an explanation of that fact. Furthermore, according to another remark, not only are transparent white objects non-existent and impossible, they are also unimaginable: 'Why can't we imagine transparent-white glass,—even if there isn't any in actuality?' (remark I-31, p. 6e).

Wittgenstein's strategy to account for the non-existence of transparent white is to explicate rules governing the effects of transparent chromatic objects, to attempt to apply these rules to hypothetical transparent white objects, and to show that such a procedure cannot be consistently implemented. He writes: 'From the rule for the appearance of transparent coloured things that you have extracted from transparent green, red, etc., ascertain the appearance of transparent white! Why doesn't this work?' (remark I-29, p. 6e). 'Where does the analogy with transparent coloured glass go wrong?' (remark I-31, p. 6e).

Wittgenstein's explanation as to where the analogy breaks down is based on his understanding of how white and black surfaces are supposed to appear when observed through chromatic transparent media: 'Something white behind a coloured transparent medium appears in the colour of the medium,

something black appears black.' (remark I-20, p. 5e). From the premise that a putative white transparent medium would have to produce effects analogous to effects of chromatic media, the following consequence is deduced: 'According to this rule, black on a white background would have to be seen through a 'white, transparent' medium as through a colorless one' (remark I-20, p. 5e). This reasoning is explicated in more detail in a remark from Part III: 'By analogy with the other colours, a black drawing on a white background seen through a transparent white glass would have to appear unchanged as a black drawing on a white background. For the black must remain black and the white, because it is also the colour of the transparent body, remains unchanged' (remark III-136, p. 34e-35e). Although Wittgenstein does not directly say so, this consequence of the assumption that transparent white media exist is clearly meant to be problematic: how could white and colorless transparent media have equal effects, in spite of the fact that white is certainly different from colorless, just as, for example, milk is different from water?

Another line of thought meant to lead to an unlikely conclusion is based on the following rule: 'Every coloured medium darkens that which is seen through it, it swallows light ...' (remark I-30, p. 6e). From this premise an odd consequence follows: '... is my white glass also supposed to darken? And the more so the thicker it is? So it would really be a dark glass!' This is, obviously, another worrisome outcome, because white is certainly not dark. Some related, similarly head-scratching consequences of the assumption that transparent white exists are contained in Part III.

Given such counterintuitive conclusions, a reasonable move would be to deny the truth of some premises in the arguments. However, Wittgenstein never explicitly stated that, since the assumption that transparent white objects exist leads to absurdities, it is definitely proved that such objects cannot exist. As Lugg (2014a) noted, transparency of white seems to be a question 'Wittgenstein fails to wrestle to the ground' to his satisfaction. Nevertheless, in Part III he does ask 'is constructing a 'transparent white body' like constructing a 'regular biangle' (remark III-138, p35e), an object which is mathematically impossible.

Several philosophers who have discussed Wittgenstein's remarks on color have, in one way or other, supported the notion that transparent whites are not just empirically non-existent but logically inadmissible. For example, Westphal (1986) stated: 'I regard Wittgenstein's puzzle propositions (white is opaque ...) as necessary'. Gilbert (1987) claimed that 'We are seeking an explanation not only of why something can neither be both white and transparent nor look both white and transparent but also of why neither is even imaginable'. Horner (2000) wrote about '... our intuitive feeling that the puzzle proposition [transparent white is impossible] is indeed an *a priori* necessary truth, that we as language users can know its truth in complete ignorance of any scientific theory'. Lugg (2014a) discussed the notion that the proposition 'no white

surface is transparent' may be analytic, just as the proposition 'no bachelor is married'. In a similar vein, Gierlinger (2009) claimed that 'Asking why there is nothing transparent-white ... implies a grammatical claim about a certain understanding of "white" and "transparent"'. In opposition to such claims, in the following I will, first, argue that Wittgenstein's arguments against the existence of transparent white are based on false premises, second, claim that transparent white objects do exist, and third, provide a graphical depiction which evokes the impression of a transparent white object.

## Luminous Grays

Wittgenstein devoted much less space to luminous gray than to transparent white, essentially just claiming that it does not exist, and that it cannot even be conceived. For example, he wrote: 'Whatever *looks* luminous, does not look gray.' (remark I-36, p. 7e). 'For the fact that we cannot conceive of something 'glowing gray' belongs neither to the physics nor to the psychology of color' (remark I-40, p. 7e). So where does this fact belong? According to a remark in Part III, it belongs to the conceptual logic of color: 'That something which seems luminous cannot also appear grey must be an indication that something luminous and colorless is always called 'white'; this teaches us something about our concept of white' (remark III-217, p. 46e). Incidentally, Wittgenstein's use of the term 'colorless' in this quote is not felicitous, because white is not colorless in the way that a transparent glass is colorless; as noted before, the proper term in current use is 'achromatic'. It should be noted that, unlike for transparent white, he did not present actual arguments to show that the assumption of the existence of luminous gray would lead to absurd conclusions. In opposition to Wittgenstein's claim, here I will present a display which evokes the impression of luminous gray.

## The Basic Physics of Transparency and Wittgenstein's Analyses

Objects in our environment can be opaque or transparent. When light falls on an opaque body, it is in part reflected and in part absorbed. Its color depends on the composition of reflected light, for example, its surface will generally look reddish if it reflects more light of longer wavelengths, and bluish if it reflects more light of shorter wavelengths. If light of all wavelengths is reflected more or less equally, the surface will look achromatic; in particular, it will generally look white if it reflects more than about 80% of incoming light. When light falls on a transparent body, it is also in part reflected and in part absorbed, but, in addition, it is in part transmitted through the body. An observer positioned in front of a transparent body will be able to see the scene behind the body, because light reflected from the scene is transmitted back through the body.

As reported above, according to one of Wittgenstein's analyses a black and white scene when observed through a transparent white medium would have to look unchanged, because black surfaces would remain black and white surfaces would remain white; in other words, a white transparent medium would have the same (non)effect as a colorless transparent medium. Now, if this were true, it would be odd, but not necessarily impossible, because different structures and processes can in principle have equal effects. However, Wittgenstein's analysis has in fact a critical flaw: it is premised on one of his rules, which claims that black observed through a transparent colored medium would have to remain black. But, a glance through a transparent colored sheet of glass or cellophane teaches otherwise. Hold the sheet at a comfortable distance and look at a black surface, such that part of that surface is observed through the sheet and part of it is in free view. If the sheet is, say, green, then it will be readily seen that the part of the black surface observed through it looks different than the part in free view, in that the former part has a more or less salient greenish cast. The reason for this is simply that some light is reflected from the sheet; otherwise we would not be able to see the sheet itself, and would only see the portion of the scene behind it, inexplicably tinted green. Wittgenstein's notion that in such cases black would have to remain black does not seem to have been based on actual observations of scenes through colored transparent media, but rather on his conviction that a transparent glass can only 'swallow' light. This is wrong, since, as noted above, transparent media also reflect light to some extent. Therefore, the impression of the color of a surface behind a transparent medium is based not only on light reflected from that surface (as filtered by the medium), but also on light reflected from the medium itself (arriving from the same direction). In sum, the purported problematic equivalence of effects of transparent white media and transparent colorless media does not hold, and the corresponding deduction suggesting the impossibility of transparent white is invalid.

In the other analysis reported above, Wittgenstein claims that, first, a transparent white glass of increasing thickness would increasingly darken what is seen behind it, and second, that such a glass would therefore be dark. Several remarks are in order here. The first claim is not necessarily true, if 'darken' is taken to mean 'appears to have a darker shade'. For example, a white paper in shadow, or observed through sun glasses, although it sends a decreased amount of light towards the observer, does not appear to have a darker shade, such as, say, light gray, but rather still looks white. Such phenomena belong to color and lightness constancy, an important class of perceptual phenomena which I will not discuss here in any detail. It suffices to note that Wittgenstein is well aware of such effects, for example when he writes '... I see the parts of the paper that are farther away from the light as darker but still white, even though I would have to mix a grey to paint

it' (remark III-171, p. 40e). The second claim is also not true. Note that transparent objects transmit, absorb, and reflect light, but differ with respect to percentages of transmittance, absorbance, and reflectance. It could be the case that increasing thickness of a transparent object might increase absorbance and decrease transmittance, but leave reflectance unchanged, and thus leave unchanged its perceived color, which depends on reflectance. On the other hand, it could also be the case that a transparent white object would indeed turn from white to gray with increasing thickness, similarly as a transparent red sheet might turn darker. In other words, a medium which is transparent white when thin might not be transparent white when thick. But if so, this would be irrelevant for the issue at hand: to resolve the question whether transparent white media could exist, it would be enough to show that thin transparent white media could exist. In sum, the possibility of a white glass turning darker while getting thicker doesn't render the existence of white glass *per se* impossible.

According to the above analyses, the assumption of the existence of transparent white media does not lead to absurdities. In other words, it has not been proven that transparent white is conceptually impossible. It could be the case, though, that transparent white is physically impossible. For example, Westphal (1986) has claimed that such a medium, being white, would have to reflect most incoming light, but, being transparent, would have to transmit most incoming light. However, it is not clear how much light a body would need to transmit in order to be regarded as transparent. Thus, a body could exist which reflects 80% of the light, enough for it to be white, and transmits most of the remaining 20%, which might be enough for it to be transparent.

Now, even if it is the case that it has not been demonstrated that transparent white objects are conceptually or physically impossible, in the senses discussed above, it still might be the case that they could not exist for some other reason. It might also be the case that they could exist, but that for some reason they have never physically materialized. Or, they might even actually exist, but this may not be realized generally. This is in fact what I will claim below.

One way to counter the above criticisms would be to claim that they are thoroughly misguided, since they miss an overarching feature of Wittgenstein's approach to these issues, which involves the conceptual analysis of colors (also called their 'logic', 'grammar', 'geometry', or 'geography'), rather than their physics or psychology. This type of critique was leveled at Westphal's (1986) physically based analyses (see Gilbert, 1987; Horner, 2000; Gierlinger, 2009). Regardless of whether such a general distinction of different approaches to color can be properly maintained, consider a concrete example, Wittgenstein's claim that black observed through a transparent medium remains black. How did he come to this conclusion? Is this statement arrived at solely on the basis of some insight into the 'grammar' of black and transparency? Whatever its



origin, I have argued that it is wrong, and that Wittgenstein's arguments that rely on it are therefore wrong as well. Furthermore, this statement seems to be based on an incorrect assumption concerning some purely physical states of affairs, such as that transparent media only absorb light but don't reflect it. Such criticisms of crucial concrete aspects of Wittgenstein's analyses cannot be deflected simply by claiming that they miss the general tenor of his approach.

The basic phenomenology of transparency and Wittgenstein's analyses

The defining physical or optical characteristic of transparent media is that they transmit light. On the other hand, their basic visual or phenomenological characteristic is that observers can see scenes behind them; this is different from translucent media, which let light through but so thoroughly diffused to be spatially homogeneous, so that no scene is discernible behind them.

What is the relation between physical transparency and perception of transparency? Physically transparent bodies certainly often also look transparent. However, this is not necessarily the case. A transparent sheet lying flat on a uniformly colored background will not look transparent but opaque. Conversely, portions of non-transparent objects might look convincingly transparent, such as in photographs or paintings of transparent objects. Thus, to obtain an impression of transparency it is neither necessary nor sufficient to observe an actually physically transparent body. Rather, what is generally the case is that under standard observation conditions the physical characteristics of transparent media have some optical counterparts, which are interpreted by the visual system as indicators of transparency, and give rise to corresponding impressions.

Are there physical bodies that can generate impressions of transparent white media? Lugg (2014a) has listed quite a few potential examples, such as 'fog, frosted glass, muslin, ice on windshields, flour in a pail of water and tracing paper' (p. 206), but has claimed that Wittgenstein would have 'disparaged the widely-held view that there are no end of [such] examples of transparent white'. However, actual refutations of legitimacy of such counter-examples for Wittgenstein's thesis cannot be found in Wittgenstein's text, and are missing in Lugg's exposition as well.

For a concrete example, consider materials with non-uniform structure, such as nets, consisting of a mesh of opaque fabric with holes. When observed from close up, the opaque portions of such materials can be clearly distinguished from the totally transparent holes, through which discrete portions a scene located behind can be observed. However, when observed from a far enough distance, or if the structure of the mesh is dense enough to be below visual resolution, one can obtain a convincing *impression* of a homogeneous transparent material through which a continuous scene can be seen. Such a material can have any color, including white. Thus, viewing a face through a white veil or a room behind a white curtain can be described as observing a scene behind a transparent white medium. Similarly, some



instances of fog, mist, or smoke in a landscape can evoke impressions of inhomogeneous transparent white media.

A possible criticism of such proposed instances of transparent white media might claim that veils or smoke are not genuinely transparent, because they have complex, inhomogeneous and partly opaque structure. But what is tacitly assumed by such a critique is that a genuinely physically transparent medium would have to have uniform structure, such that any of its parts is equally transparent. However, on a microscopic level this is not true. For any material, on that level some of its portions consist of empty space, which simply lets light through, whereas other portions contain matter solid enough to absorb or deflect light. But even if this microscopic analogy were not fully appropriate, the fact remains that the above examples involve *impressions* of transparent white media. As such, they show that it is not true that transparent white is unimaginable or inconceivable. Wittgenstein stated that ‘When dealing with logic, “one cannot imagine that” means: one does not know what one should imagine here.’ (remark I-27, p. 6e). But here one does know: just imagine a face behind a white veil or a landscape covered by a not too dense fog; or, even better, look at photographs of such scenes.

Which notion of transparency, physical or perceptual, would be more relevant for Wittgenstein’s concerns? He did formulate some of his analyses in terms of physical properties of real and hypothetical transparent bodies. On the other hand, he mainly discussed only impressions of colors, rather than their corresponding physical properties. Interestingly, in Part III he asked ‘What should the painter paint if he wants to create the effect of a white, transparent glass?’ (remark III-198, p. 44e), and claimed that a strategy of painting a red transparent body and then substituting white for red would not work, because the impression of transparency would thereby be lost (see remark III-24, p. 19e). The fact that he addressed and discussed such issues shows that he regarded impressions of depictions of transparency as relevant for the problem of existence of transparent white.

## Graphical Depictions of Transparent White and Luminous Gray

What are the optical conditions conducive for perception of transparency? Many studies of such issues have been carried out by perceptual psychologists, mainly using simple pictures, that is, physically non-transparent 2D configurations. Such research has identified conditions favorable and unfavorable for perception of transparency, such as geometric and photometric (dis)continuity of portions of the scene observed in free view and through the transparent sheet. For reviews see Kingdom (2011) and Gerbino (2013), and references listed there.

Figure 1, left, was constructed on the basis of insights from this literature. It takes up Wittgenstein’s challenge of producing a painting (or rather a

computer-generated display) of a transparent white object. Obviously, the display is not actually transparent, but it does look as a more or less convincing representation of a very simple scene which includes a transparent white rectangular sheet. The graphics itself is not particularly original, as displays similar or related to this figure are legion in the perceptual transparency literature, except that they mostly depict transparent gray or chromatic sheets; to my knowledge, no research has explicitly addressed the perceptually not particularly interesting issue of whether the depicted transparent body could look white.

As noted above, Wittgenstein claimed that one could not produce a painting of transparent white by starting from a painting of transparent red and then substituting white for red. Now, a reddish version of Figure 1, not presented here, can be easily produced by superimposing a red transparent filter, resulting in an image containing various tones of red (in fact only four different shades, for this simple image). If one would substitute the same white color for all the red shades, all sense of transparency would of course be lost, as the image would turn uniform white. The proper procedure, not mentioned by Wittgenstein, would not be to 'whiten' the original but to 'achromatize' it, by substituting appropriate shades of gray.

Figure 1, right, meets the challenge of depicting luminous gray. It is also not particularly original, having been constructed in the manner of figures published by Zavagno & Caputo (2005), who explicitly intended to produce images portraying luminous gray. Like the depictions of transparency, impressions of luminosity are evoked by images that involve some optical characteristics of corresponding physical instances. In the case of perceived luminosity, the relevant visual feature is likely a visual halo, the gradient of light intensity surrounding a luminous body, as represented in the oval figures in the display. Incidentally, this display involves an intriguing visual illusion unrelated to the main issues in this paper, in that the surround in between the oval figures is physically uniform, but some of its portions look misty whereas others look plain.

Physically radiating bodies are often white, and their light intensity is much greater than the light intensity in the background. Such a strong light contrast is lacking in this figure, which may account for why the impression of luminosity is relatively weak. Such conditions are probably rather rare in everyday circumstances, and this empirical rarity rather than conceptual impossibility (as in Wittgenstein's claim, reported above, that 'something which seems luminous cannot also appear grey') could explain why the idea of luminous gray may seem odd. This oddness may teach us 'something about our concept of white', but only in the sense that our perceptual concepts are likely to reflect the statistical regularities in our environment, and how they are processed in the visual system. In other words, the 'grammar' of color is based on its physics, physiology, and psychology.

Obviously, the displays in Figure 1 are neither actual white transparent sheets nor actual gray radiating light sources. However, they do constitute more or less cogent representations of such objects. As such, they do not provide proof that such objects really exist, because even impossible objects can have compelling graphical representations, as demonstrated masterfully by M.C. Escher. Nevertheless, they depict clearly and explicitly how such objects would look, providing compelling impressions of transparent white and luminous gray, and thus, together with the above criticisms of Wittgenstein's arguments, present challenges to the notion that such entities are non-existent, impossible and unimaginable.

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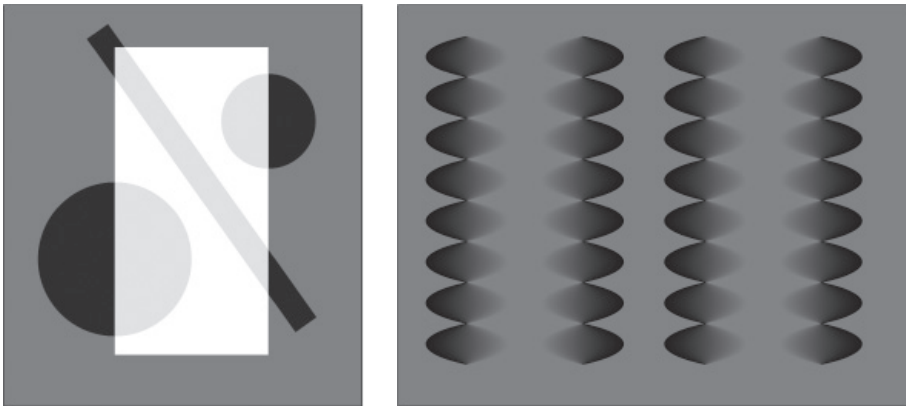


Figure 1. Left: A depiction of transparent white. Right: A depiction of luminous gray.



## REFLECTIONS ON EDITING MOORE'S NOTES IN WITTGENSTEIN: LECTURES, CAMBRIDGE 1930–1933

**Abstract.** *The essay begins by briefly reviewing the complex history of the collaborative long-distance editing work that led to the publication of Wittgenstein: Lectures, Cambridge 1930-1933 (Cambridge UP, 2016). It then turns to a discussion of the rationale for the innovative editorial policies we ultimately developed and implemented, and some of the broader methodological issues that they raise.*

In August 2009, while we were taking part in the annual Kirchberg Wittgenstein Symposium, Josef Rothhaupt asked Brian Rogers and myself to work with him on an edition of Moore's notes of Wittgenstein's lectures. I contacted Thomas Baldwin, Moore's literary trustee, to ask for permission to edit the notes. Baldwin informed us that he had already given Gabriel Citron permission to produce an edition of the final set of notes, those from the May 1933 term, and he suggested that we explore the possibility of working together with Citron on an edition of the full set of notes. After some discussion, Citron agreed to work with us toward the larger project, and Rothhaupt graciously withdrew.<sup>1</sup> As Citron had already prepared a first draft transcription of the May 1933 lectures, the initial stage of our collaboration was a matter of Rogers and myself checking his transcription against low-resolution photocopies of the originals, and of the three of us settling on preliminary protocols for jointly editing the material long-distance. That revised draft of the May 1933 lecture notes then served as the basis for a book proposal for Cambridge University Press, which was accepted in August 2010. Cambridge University Press was the ideal venue for this project for a number of reasons. First, I had worked with the Press for some time as an editor and author, and so had a good working relationship with Hilary Gaskin, their Philosophy editor. She was supportive of our plans for a scholarly edition of the Moore

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1 I want to take this opportunity to thank Brian Rogers and Gabriel Citron for making such an extraordinarily productive collaboration possible. I would also like to thank Eran Guter for discussing how best to edit Moore's notes of Wittgenstein's lectures with me while I was working on this paper, and Jim Levine and Bernie Linsky for a discussion of how best to edit Moore's notes of Russell's lectures.

manuscripts, even when it involved a number of substantial departures from the Press's usual typographic and editing conventions. In addition, the close relationship between Cambridge University Library, the owner of the manuscripts, and Cambridge University Press, meant that we could use images of the manuscripts without any of the charges that would have been levied on an edition at another press. This proved to be crucial when we decided to use over fifty images of each of Moore's drawings in the book, and to produce a website containing high-resolution images of every page of the notes. The first draft of the book contract in my files is dated February 2011, with a delivery date of January 2012; the version we finally signed was dated October 2012, with a September 2014 delivery date. The book manuscript was sent to the Press in December 2014, and was published in November 2016.

As this very brief timeline already suggests, we encountered more difficulties in the process of editing the book than we had initially anticipated. Some of them, such as the challenges involved in long-distance collaboration between three people, working on reproductions of a complex and sometimes barely legible manuscript, were evident from the start. Those 'known unknowns', turned out to be much less trouble than one might have reasonably expected. In large part, that was thanks to exceptional patience and good will on the part of everyone involved. It was also due to rapid technological progress in photoreproduction, and a generous Franklin Research Grant from the American Philosophical Society. That grant enabled us to replace the low-resolution black and white scans that were available when we began our collaboration, digital images that were every bit as fuzzy and illegible as the output of an average library photocopier in the 1970s. They were replaced by high-resolution color scans, so detailed that one could easily make out some details onscreen that were barely visible when looking at the original manuscript in good light.

It was the 'unknown unknowns', the difficulties that we did not anticipate when we first planned our collaboration, that ultimately turned out to be the most challenging and demanding. For the most part, those difficulties arose from the overly optimistic expectation that we could easily build on the work that we had done on the substantial sample chapter containing the last term's notes and straightforwardly apply it to the project of editing the notes from the other terms. Now that we had established a set of editing protocols in the course of constructing our writing sample, we thought we simply needed to go on in the same way, perhaps with some minor modifications and extensions, to the remainder of the manuscript text. However, Moore's notes from the May 1933 term turned out to be, in a number of ways, unrepresentative of the notes from the previous eight terms. When examined more closely, those manuscripts led us to a number of problems that we had not anticipated. First, because Moore gradually became more adept at



taking notes in Wittgenstein's lectures, and because Wittgenstein gradually became a more experienced lecturer, the last set of notes were much more polished than the earliest ones, which were often far more telegraphic and sometimes clearly incomplete. Second, it only gradually became clear to us how difficult it would be to find a principled way of separating out the words Moore wrote down as lecture notes from his subsequent comments and his own editorial and philosophical responses. While his notes were frequently very detailed, they were sometimes, and especially in the first few terms' notes, rather telegraphic, and often overlaid with his own second thoughts about the notes themselves. Although some of those additions were probably made while Moore was still present in the class in question, or very shortly afterwards, it was clear that most of them dated from his own research some twenty years later, when he was writing his articles for *Mind* on the lectures. Third, the May 1933 notes contained only three small drawings, and made very little use of mathematical and logical notation. There were over fifty more diagrams and drawings in the notes for the previous terms, and some of those lectures made extensive use of symbolism, which Moore had clearly tried to transcribe with great fidelity, but had sometimes written down in ways that were obviously mistaken. Thus, we had to arrive at a consistent and appropriate way of editing not only the words on the page, but also the logical and mathematical symbolism, and the dozens of diagrams, almost all of which were clearly an integral part of the lectures.

While the principal editorial policies we ultimately adopted are concisely stated in the final part of our editors' introduction (Stern, Citron, and Rogers, xlix-lvi), our reasons for adopting them are only briefly summarized there. However, the underlying rationale that guided those decisions can be stated in a couple of sentences. All three of us agreed, from the beginning of our collaboration, that we wanted, as best we could, to *give the reader access to what Moore wrote down at the time*. However, we also wanted to find a way of combining a high level of fidelity to the source manuscript with a *clear and easily legible text*.

In the opening of the final section of our editorial introduction, we summed up the methods we ultimately embraced in the following words:

Our main objectives in editing Moore's notes were both to provide a text that makes Wittgenstein's lectures accessible and to reproduce faithfully what Moore actually wrote down. Because Moore's lecture notes are so thorough and conscientious, they deserve to be published in full, with a minimum of editorial intervention or revision. However, reproducing every mark on the notebook pages would have resulted in an inaccessible and distracting text, hindering readers from engaging with the content of the lectures. We have therefore amended the text only when the benefits of doing so outweighed the primary value of providing an exact reproduction. We have also employed a minimal

editorial apparatus in this volume in order to minimize distractions from the content of the lectures. (Stern, Rogers and Citron 2016, xlix)

In the remainder of that section, we set out our general editorial policies and illustrated them by discussing their application to examples drawn from four sample facsimile manuscript pages. However, that eight-page discussion, the capstone of over fifty pages of editorial introduction, was of necessity no more than a brief summary.

Our programmatic and seemingly simple aim of producing a consistently edited and accessible text on the principle of fidelity to what Moore wrote down at the time, ultimately led us into a protracted and intricate discussion of how to put that principle into practice. In part, this was simply a matter of working out how to handle any number of unexpected and initially overlooked details, the particular challenges we faced in doing justice to the specific character of Moore's contemporaneous notes. However, there was also a shared pattern to many of these decisions about how to handle any number of specific matters of editorial policy. For our overarching aim was to build on the complementary strengths of the two main editorial approaches taken in previous editions of Wittgenstein's work. The first generation of Wittgenstein's editors, including his literary executors, and previous editors of his lecture notes, concentrated on providing a clear, uncluttered and easily accessible text. The next generation of editors have mostly followed the example of the much more scholarly and systematic approach pioneered by the Bergen Wittgenstein Archive which offers much greater fidelity to the source text, but on the other hand does so in a much less easily accessible form. In the early 1990s, I became very interested in the Bergen Wittgenstein Archive's work on a digital edition of Wittgenstein's *Nachlass*, and I first visited the Archive in 1992. Since then, their work has not only been a crucial resource for my research, but has also led me to think about the theory and practice of Wittgenstein editing in particular, and the philosophical issues raised by the practice of editing philosophy (See Stern 1994, 1996, 2008, 2010).

We wanted, as much as possible, to produce an edition that was as accessible and uncluttered as the first editions of Wittgenstein's lectures, yet also as careful about getting the words on the page right as the current generation of Wittgenstein editors. In other words, the editorial approach that we envisaged aimed at a synthesis of the seemingly diametrically opposed approaches that had guided previous editors of Wittgenstein's work. On the one hand, we admired the clear, uncluttered and easily accessible editions produced by his literary executors, and previous editors of notes taken at his lectures (Wittgenstein, 1966, 1976, 1979, 1979a, 1980, 1988). However, that first generation of editors had often made questionable decisions about how to present that material, including decisions about what to include and what to leave out, at times rearranging sketchy notes and filling in gaps

when they thought it necessary, and they usually said little or nothing about those choices and their reasons for making them. The previous editions of student notes of Wittgenstein's lectures from the early 1930s (Wittgenstein, 1979a, 1980) were a particularly clear case of this kind of editorial free-handedness. Probably the best-known and most controversial example of this way of editing Wittgenstein was Rhees' editing of the *Philosophical Grammar* (Wittgenstein 1974; for further discussion, see: Kenny 1976, Hintikka 1991 and 2005, Stern 1996).

On the other hand, we were also impressed by the much more scholarly and systematic approach pioneered by the Bergen Wittgenstein Archive (Wittgenstein 2000, 2009). That online editing and the published texts it inspired, such as the 'Scholar's Edition' of *The Big Typescript* (Wittgenstein 2005), pioneered a much more transparent and explicitly stated approach to Wittgenstein editing, and achieved much greater consistency and scholarly fidelity to the source text. However, these virtues came at a high price, for showing all of the complex changes made by the author involved introducing an intricate editorial apparatus that could be quite opaque and forbidding to the casual reader (see Wittgenstein 2005 viii-ix for a list of the abbreviations and other conventions used there, for instance.)

One compromise that is easily available online is to provide multiple versions of the same text. For instance, the *Bergen Electronic Edition* (2000) of Wittgenstein's papers provides not only a 'diplomatic' edition that shows a very high level of editorial detail, but also a much simpler 'normalized' version which only shows the final outcome of the various stages of revision represented in the 'diplomatic' version, plus photographic facsimiles. The *Wittgenstein Source Bergen Nachlass Edition* (2009) goes a step further, allowing the reader to tailor a customized normalized version by choosing from an extended menu of presentation options. This approach allows the scholar to closely investigate the textual details by working with the facsimiles and the diplomatic transcription, while a casual reader can simply browse the normalized version.

Our response to the challenge of working out how to employ a minimal editorial apparatus yet maximize fidelity to Moore's original notes turned on the decision that while we would start by drawing up a diplomatic transcription of the notes, the text of our published edition would be a consistently normalized version of that transcription. Instead of showing all the details of the various changes that Moore had made, we would instead regard his contemporaneous changes (and his later disambiguation of his sometimes barely legible writing, and occasional correction of obvious mistakes) as instructions for producing a much more legible normalized text. Because we did this in a systematic and consistent manner, without any surreptitious additions or changes on our part, we could thus provide access to what Moore wrote, not our own reconstruction of his words.

Nevertheless, as part of that normalization process, we did decide to correct Moore's choice of words in a few clearly defined categories of straightforward mistakes where a literal transcription could only have caused confusion. In particular, we silently corrected the occasional misspelled words and smaller errors in matters of logical notation. We also filled in Moore's many abbreviations of frequently used words, and provided a glossary of his abbreviations at the end of the book, judging that this would make the text much easier to take in, and would not deprive the reader of any useful information. However, we almost entirely avoided inserting words or punctuation of our own, and on those occasions when we thought something missing had to be included, we used a distinctive grey font.

A number of closely related issues arose from the fact that the documents we were editing were not consistently formatted, and so the use of spacing and the organization of words and sentences on the page was often somewhat idiosyncratic, yet was also sometimes semantically significant. For instance, Moore frequently used very large spaces before and after a word or phrase as mentioning device. If we had simply kept the extra spacing, many readers would have missed its significance. Adding an explanatory footnote would have been repetitive and cumbersome, but omitting the spacing altogether would have been seriously misleading. This is a good example of a case where grey font enabled us to solve this problem elegantly: we replaced the spaces by a pair of quotation marks in grey.

We knew that dedicated scholars would want to check up on our decisions on these and similar matters, and so we provided access to the facsimiles we used on the Wittgenstein Source website (Stern, Citron, and Rogers, 2015). In order to make it easy for readers of our edition to find the corresponding page of the source manuscript on the web, we had to provide manuscript page numbers in the margin of each page of our printed edition. This use of manuscript page numbers, in turn, made it easier for us to explain various problematic features of the text, such as a few exceptional places where we had to reorganize text because Moore had included arrows connecting material on different pages.

A solitary editor, or even a pair of editors working in close proximity, might well be able to rely on memory and habit to ensure that they went on in the same way. However, as the three of us were thousands of miles apart and almost entirely reliant on email as our primary form of communication, we soon realized that we had to come up with detailed editorial protocols if we were to remain on the same page, so to speak. As a result, we spent many months negotiating the drafting of a master document setting out these editorial procedures and policies, which gradually became increasingly intricate and complex.

We divided the task of editing the manuscript notes into two distinct phases. First, we aimed to produce 'diplomatic' editions of each manuscript.

In this stage of the process, the aim was to transcribe every potentially semantically significant aspect of the notes, with only minimal editorial intervention. For instance, we recorded all of Moore's words, including his later comments and editorial mark-up from the 1950s, and all crossed out words were included in 'strikethrough' font. At this stage, we did do some initial editing of the text, such as omitting pages that were clearly authored by Moore, including his indexes at the end or beginning of the notes, and some pages consisting entirely of his own work that were clearly separate from the lecture notes.

The work of diplomatic transcription was shared out roughly equally among the three of us, and the initial stage of diplomatic transcription, while time-consuming in terms of the work needed to produce a first draft, went relatively quickly and smoothly. It was only as we began the further task of checking each other's work that we realized how many of our construals of individual words needed further review, and how many policy questions about how to handle difficult and unexpected cases had arisen. Indeed, over an extended period of time working on hundreds of pages of transcriptions, it is extraordinarily challenging for any one person to simply keep track of those policies and be sure that one has applied them appropriately in each and every case. In practice, the precise details of our principles of transcription proved to be a work in progress and gradually evolved over time.

Matters became even more complicated in the next stage of the work, as we had to settle on policies to be implemented in turning the initial 'diplomatic' transcriptions into the 'normalized' product that we would ultimately use in the published edition of the notes. We remained consistently committed to the broad outline of the normalization policies described above. We would produce an edition of Moore's contemporaneous lecture notes, omitting his own later writing from the main text, but including the most interesting later comments and remarks in footnotes. We would not silently add our own words and punctuation to fill in the gaps and organize his fragmentary notes. However, we still had to deal with a large number of more specific decisions about how best to implement that strategy, all of which then had to be consistently applied by each editor. Despite these carefully formulated plans, there were often unexpected cases that required us to adjust our policies. However, there eventually came a point at which we couldn't adjust them any further, if only because doing so would require systematically checking the entire text to make sure that the change was carried out consistently. In those cases we had to make exceptions, and if the departure seemed substantial or significant, we added an explanatory footnote explaining what we had done.

It was not easy to decide what kinds of information to include in the footnotes, and how detailed they should be. Many scholars and researchers favor the inclusion of many detailed footnotes, believing that the extra information can only be helpful, and that the casual reader is always free

to ignore them. We did include many of Moore's later responses to what Wittgenstein said, and such matters as small variants to the wording, etc., in our footnotes until a quite late stage in the process. However, we were ultimately persuaded to substantially reduce the number of such footnotes by a reader, who told us that he found the sheer number of relatively inconsequential footnotes distracting, not only because it made it harder to read the text itself, but also because the small number of really interesting footnotes were lost in the welter of boring ones.

In the end, we decided to restrict ourselves to a few relatively simple categories of footnotes. We included references for both explicit and implicit citations of works by others whenever possible, and also for clear allusions. However, we limited ourselves to only a very few cross-references to Wittgenstein's other writings, providing them only where we considered a parallel passage to be essential, or at least very helpful, for understanding particular passages. This was largely a pragmatic decision to avoid taking on what would have been a gigantic task if it were done thoroughly, as there are so many parallels and connections between the lectures and Wittgenstein's other writings.

A few particularly difficult editorial questions were deferred at each stage in the editing process, in the hope that they would be easier to resolve later on. While we were working on the diplomatic transcriptions, there were thousands of words that were either wholly or partially illegible, or at least sufficiently unclear that they were marked as doubtful. As time went by, we became increasingly skilled at recognizing Moore's handwriting, and his characteristic ways of writing certain letters. However, at the end of spring 2016, some time after we had circulated an almost-final transcription of the complete set of lectures, we still had a list of about a hundred or so particularly difficult words. I was able to resolve a number of them by returning to Cambridge University Library and carefully examining the text. At this stage, we no longer had any completely illegible words; rather, we were looking at words where we could only construe some of the letters, and several different guesses as to how to complete the word all seemed quite plausible. This made it possible for us to identify those words by a new strategy: comparing the barely legible letters with instances of similar letters elsewhere in the Moore manuscripts. For we realized that our transcription could be used as a database of successful identifications of the various sequences of letters Moore had written down, and so we could search it for each of the candidate construals of a given illegible word, and could then compare it with the facsimiles of words that we had successfully construed. As an artificial but illustrative example, imagine that we were unable to work out whether a given word which began with 'th' was a token of 'this' or 'that'. In most cases, a final 'is' and a final 'at' in Moore's hand are easy to distinguish: there is almost always a dot on the 'i' and a horizontal line on the 't'. But if both of those



markers were missing, and the end of the word was scribbled in a hurry, we would then bring up other instances of scrawled tokens of 'this' and 'that', and compare the illegible word with those two sets of patterns. In every case but one in which the 'semantic' approach—looking for meaningful words—failed to provide a resolution, this 'syntactic' technique—looking for recognizable tokens of this letter after that one—was successful. In the end, the only word that we were unable to construe by this method was a singleton, an obscure name that occurs only once. It clearly begins with an 'N', and probably ends in 'benites' or 'lenites', with approximately three letters in between (Wittgenstein 2016, 361 9:44).

One of the main aims of this paper is to provide some insight into the lengthy process of deliberation that led us from our guiding principles to the particular implementation that we ultimately chose. I hope this account will be of use not only to readers of our edition of Moore's notes, but also to those who are considering how best to edit similar manuscripts in the future.

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## RELIGIOUS HINGE COMMITMENTS: DEVELOPING WITTGENSTEINIAN QUASI-FIDEISM<sup>1</sup>

**Abstract.** *The main goal of this paper is to develop further a quasi-fideistic Wittgensteinian view on the nature of religious beliefs proposed by Duncan Pritchard (Pritchard, 2000; Pritchard, 2012a; Pritchard, 2012b; Pritchard, 2015; Pritchard forthcoming). According to Pritchard, Wittgenstein's thoughts on religion may be connected with the epistemological perspective developed in his final notebooks On Certainty (Wittgenstein, 1969), where Wittgenstein argues that our empirical beliefs rest upon grounds (i.e., hinge commitments) that cannot be rationally defended, but that we nonetheless find certain. Pritchard proposes that the idea of hinge commitments may be extended to religious beliefs as well, and argues that if this is done, religious beliefs may turn out to be no less defensible than our nonreligious, empirical beliefs. Pritchard provides a preliminary analysis of the kinds of hinge commitments as well as of their characteristics. In this paper our main concern is to engage in further analysis of these commitments. Such analysis seems to be necessary if we are to grasp the way faith relates to the rest of human knowledge. Moreover, we suggest that the best way to approach this task is by asking how we acquire basic hinge commitments. In order to answer this question we need to consult not only philosophers but also developmental and social psychologists, and see how children acquire knowledge of religious as well as nonreligious beliefs.*

In Wittgenstein's writings there are plenty of insightful comments regarding the nature of faith and religious belief, but certainly not enough to make a full-blown philosophy of religion. His comments have nevertheless inspired many discussions. Some of these discussions have primarily interpretative goals and aim to tell us what Wittgenstein most likely thought about faith. Other

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discussions focus on the way his remarks, no matter how ambiguous they might be, help us understand the nature of religious beliefs. Of course, these two kinds of debate are not unrelated. The way we interpret Wittgenstein will certainly influence the way we will use his views in tackling the more general problem of the status of religious beliefs and their relation to non-religious ones.

In the first part of the paper we briefly outline Wittgenstein's alleged fideism as this is the most frequently discussed issue regarding Wittgenstein's view on religion. Philosophers such as Norman Malcolm (Malcolm, 2000/2002; Malcolm, 2000), Peter Winch (Winch, 2002), D.Z. Phillips (Phillips, 1993) and Iakovos Vassiliou (Vassiliou, 2001), to name but a few, who read Wittgenstein in this key, argue that Wittgenstein focuses on the regulative and expressive function of our religious beliefs. This is what distinguishes religious from scientific beliefs. In other words, they hold that, for Wittgenstein, religious beliefs do not aim to explain and predict phenomena in the world but give purpose and meaning to our everyday activities and way of life. This position faces two main objections that need to be addressed if we are to get a better grasp of the nature of religious belief. First, it remains unclear whether, and if so, in what sense religious beliefs are true or false; and, second, whether this view of religion can avoid radical epistemic relativism.

Thus, in the second part of the paper we further tackle the question of the epistemological status of religious beliefs in Wittgenstein's philosophy. For this purpose we turn to Pritchard's quasi-fideistic development of Wittgenstein's view of religious discourse (Pritchard, 2000; Pritchard, 2012a; Pritchard, 2012b; Pritchard, 2015; Pritchard forthcoming). We do not see Pritchard's account as strictly an *interpretation* of Wittgenstein since it combines elements of his view with ideas taken from another work of Wittgenstein's, *On Certainty*, in a way that probably would not have been welcomed by Wittgenstein himself.<sup>2</sup> In spite of that, however, we find Pritchard's account of religious discourse plausible, though not free of difficulties, and it seems to us sufficiently close to Wittgenstein to be called Wittgensteinian. Our goal is to examine to what extent this Wittgensteinian position could help us cast more light on the very phenomenon of religiosity. The main advantage of Pritchard's quasi-fideism is that it addresses in a straightforward manner the question of the truth of religious beliefs without throwing doubt on their regulative and expressive function. This seems to be promising as a way to understand the nature of religious beliefs. According to Pritchard, Wittgenstein's thoughts on religion are best understood from the perspective of his epistemology developed in his final notebooks *On Certainty*. The main thesis that Wittgenstein develops here

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2 For interpretations of Wittgenstein's view that seem more faithful to its complexity and its unresolved tensions, see, e.g., Schroeder 2008; Cottingham 2009; Cottingham 2017.

is that all our empirical beliefs<sup>3</sup> rest upon grounds (i.e. hinge commitments) that cannot be rationally defended, but that we nonetheless find certain. In this way our religious beliefs, Pritchard argues, are not worse off than our nonreligious beliefs. What this means is that defending our religious beliefs from the skeptics is no more difficult than defending any other basic beliefs that we have.

The main problem with Pritchard's view is that it does not differentiate sufficiently between various kinds of hinge commitment as well as between the ways we accept them as certain. But unless we know how religious hinge commitments stand in relation to hinge commitments of other kinds we cannot take for granted that there is no epistemic difference between them. In the second part of this paper we aim to explore further the variety of hinge commitments and to offer a preliminary analysis of the way religious hinge commitments, and religious beliefs generally, relate to the rest of the human knowledge: knowledge of other minds, knowledge of the so-called Moorean certainties, ordinary empirical knowledge, scientific knowledge, etc. Neither Wittgenstein nor Pritchard engages in such an exploration of hinge commitments, but we hold that Pritchard at least would not find it unwelcome. Furthermore, we suggest that the best way to begin such an exploration is by asking how we acquire/learn basic hinge commitments. In order to answer this question we need to consult not only philosophers but also developmental and social psychologists and see how children acquire knowledge of other minds, how they learn basic Moorean certainties, and finally how they acquire religious beliefs. It is our contention that only when we tackle the questions about acquisition more closely will we be in a position to understand better the very nature of our religious beliefs. Finally, we conclude that only through such an approach we can hope to cast more light on the important questions such as: to what extent the worlds of a believer and a non-believer overlap and where the communication between the two is not only possible but also desirable.

## 1. Wittgenstein and fideism: problems and inconsistencies

According to the fideistic interpretation of Wittgenstein that was initially proposed by Norman Malcolm (Malcolm, 2000/2002), and developed by D.Z. Phillips (Phillips, 1993) Wittgenstein understands faith as a form of life. What this comes down to is that faith has its own criteria for what constitutes plausible or implausible beliefs and cannot be subjected to criticism from the outside. In other words, the 'logic of religious discourse' is only intelligible to those who share a way of life and participate in the religious practices of

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3 Pritchard talks throughout about 'rational' rather than empirical beliefs, but if we think just of empirical beliefs his position is clearly more defensible.

their community. So, to understand religious concepts we need a religious tradition; without a participant's understanding of that form of life, there can be no understanding of religion. If this is the case then it seems that religion, morality, and science may each have criteria of intelligibility peculiar to itself. But does this mean that a religious and a nonreligious person live in completely different worlds? Are we then to accept that there is no difference between religion and superstition? Let us unpack this a bit.

If we interpret Wittgenstein's stance toward religion from the perspective of his philosophy of language and conclude that faith, for Wittgenstein, is a language game with its own rules, it seems that we ascribe to Wittgenstein radical epistemic relativism according to which all of us can have our own truths. This would mean that the 'truth' of some aboriginal cult stands on a par not only with the official Christian doctrine, but also with the scientific worldview. It is highly unlikely that Wittgenstein would have subscribed to such a view. For Wittgenstein religious faith and superstition are quite different (Wittgenstein, 1980). The former is oriented toward developing our love for God while the latter results from fear and is a pseudo-science in the sense that it aims to explain and predict phenomena. In other words, Wittgenstein seems to disqualify superstition as a pseudo-technological attitude to the world. When acting on a superstition our intention is not to strengthen our love for God, but to influence the course of events in the world: to get cured, to heal a loved one, to lead a successful life and the like. Even proper religious practice such as baptizing a child could be a form of superstition. For instance, if we baptize a child so that she can have a long life, it is a superstitious action. If we baptize her for the sake of joyful affirmation of God then it is a sign of proper faith. But, what does constitute proper faith for Wittgenstein? What does he say about the nature and function of our religious beliefs?

D.Z. Phillips, in his interpretation of Wittgenstein, argues that it is precisely the function (not so much the epistemic value) of religious beliefs that differentiates them from scientific beliefs. This function is first and foremost regulative. Our belief in God guides us in our daily life. It tells us how to behave and what to do. In this way religious beliefs are deeply intertwined with our daily routines. If we cut religion off from our everyday life and reduce it to a mere doctrine that we endorse, religion becomes an esoteric game (Phillips, 1993, 69). However, this is not the case for Wittgenstein. A belief in God is not some extra metaphysical belief that we carry around for theoretical purposes (to account for the world's events and explain phenomena). On the contrary, the belief in, e.g., Jesus Christ and his resurrection, determines for us how we are going to treat and understand both ourselves and others in a way that no scientific theory

could. Wittgenstein often tries to capture the difference between religious and scientific beliefs. So we find him saying:

If someone who believes in God looks round and asks ‘Where does everything I see come from?’, ‘Where does all this come from?’, he is *not* craving for a (causal) explanation; and his question gets its point from being the expression of a certain craving. He is, namely, expressing an attitude to all explanations. (Wittgenstein, 1980, 85e)

The way you use the word ‘God’ does not show *whom* you mean—but, rather, what you mean. (Wittgenstein, 1980, 50e)

D.Z. Phillips emphasizes that for Wittgenstein, a religious belief is very different from a scientific one. Our belief in the resurrection is not, and cannot, be the same as belief that the water is H<sub>2</sub>O or that Pontius Pilate was the fifth prefect of the Roman province of Judaea. The latter are simple empirical truths that could be overthrown in a regular manner. The belief in the resurrection of Jesus Christ is not of that sort and cannot be overthrown in that way. That belief has a regulative and expressive function. By stating it, we express our commitments; i.e., what we are prepared to do, what we think we are obliged to do etc. in the light of Christ’s resurrection and his teaching. To put it differently, historical proof of the Gospels (the historical-proof game) is irrelevant to our belief in God (Vassiliou, 2001, 33). The message of the Gospels is seized by the faithful who believe that such a message of this kind is essential for their life. For them the task of religion is not to explain or predict events in the world, but to make sense of many aspects of their life, such as one’s moral character, social allegiances, or aesthetic sensibilities. Along these lines Wittgenstein says: ‘Christianity is not a doctrine, not, I mean, a theory about what has happened and will happen to the human soul, but a description of something that actually takes place in human life’ (Wittgenstein, 1980, 28e).

Now, if the function of our religious beliefs is regulative, can we speak of religious truth at all? Phillips seems to think that we can and that the believer ‘must unapologetically be prepared to advance truth-claims’ (Cottingham, 2009, 205). However, given that they are regulative rather than descriptive, such beliefs cannot be supported like empirical claims. Thus, the status of these truth claims, even when we are prepared to accept them as true, remains mysterious. Moreover, if we allow for beliefs to be true in some non-empirical special way but do not spell out how exactly this is possible we in effect open the door for all kinds of ‘subjective truth’ (the alleged truth for oneself though not necessarily anybody else), i.e., we open the door to radical epistemic relativism. So, in order to avoid such relativistic conclusions we need to be very specific about the conditions in virtue of which religious beliefs are true, how these beliefs are defended, and what kind of evidence they rest



upon. Duncan Pritchard (Pritchard, 2000; Pritchard, 2012a; Pritchard, 2012b; Pritchard, 2015) offers a quasi-fideistic interpretation of Wittgenstein that addresses these worries, so let us turn to his interpretation now.

## 2. Pritchard: hinge epistemology, quasi-fideism, and Wittgenstein

Pritchard develops a quasi-fideistic interpretation of Wittgenstein in several papers (Pritchard, 2000; Pritchard, 2012a; Pritchard, 2012b; Pritchard, 2015, Pritchard forthcoming). He argues that in order to understand Wittgenstein's take on the nature of religious beliefs properly, we need to carefully read Wittgenstein's last notebooks collected under the title *On Certainty*.<sup>4</sup> The main thesis that Wittgenstein develops there is that all of our empirical beliefs rest upon grounds that cannot be rationally defended, but that we nonetheless accept as certain. Now, what does this mean? Does it mean that we are essentially irrational creatures holding our views with no reasons to support them? Certainly not. It is more complicated, but also more compelling, than that. So, let us examine together with Pritchard the structure of reasons that Wittgenstein develops in *On Certainty*, as well as what it means to say that our basic certainties are groundless, i.e. that they are not supported by more basic beliefs.

One of the basic certainties that we don't doubt is that we have two hands.<sup>5</sup> Now, what would it mean, Wittgenstein asks, if we were required to provide further reasons to defend this certainty? That would mean that we are required to find a truth more basic than the one that we already hold to be certain. But, this does not make sense, argues Wittgenstein. 'My having two hands is, in normal circumstances, as certain as anything that I could produce in evidence for it. That is why I am not in a position to take the sight of my hand as evidence for it' (Wittgenstein, 1969, §250, 33e). In other words, when we are asked why we believe that, e.g., Julia Roberts was in Belgrade we could offer reasons for this claim. Julia Roberts being in Belgrade does not qualify as a basic certainty and there are reasons that we can give to justify why we believe that she was there. We could say that we have read about it in the newspapers (and that we have further reasons to believe that it was not fake news), or that our friend saw her, or alternatively that we met her in downtown Belgrade. This is how our usual reasoning goes.

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4 For an interesting application of the epistemology of hinge commitments in the moral domain see e.g., *The hinges of morality: An investigation of moral particularism, Wittgenstein and euthanasia* (Kevin Buzinski, 2006, unpublished Ph.D. dissertation).

5 In the discussion on basic certainties Wittgenstein is dealing with G.E. Moore's arguments against the skeptic. This is why Pritchard refers to these certainties as the 'Moorean certainties'. However, we will not examine in more detail either Moore's or Wittgenstein's answer to the skeptic.



We aim to substantiate our less secure claims with more secure ones. But all this reasoning is made possible by basic certainties such as that we have hands and eyes, that Hollywood and Belgrade are cities on this earth, that the earth itself did not come into existence five minutes ago, etc. However, when it comes to such basic certainties the kind of reasoning illustrated above is not possible. Whatever we might say to support those certainties would not in itself have any higher degree of certainty.

This reveals something interesting about the nature of our beliefs, but also about the very possibility of doubt, as Pritchard correctly notices. We have seen that Wittgenstein aims to show that all our beliefs rest upon certainties that have no further support. But Wittgenstein also wants to state that the very act of doubting a particular belief presupposes basic certainties. If we try to doubt everything he says we 'drag everything with it and plunge it into chaos' (Wittgenstein, 1969, §613, 81e). Furthermore, to doubt everything would be an incoherent project because we need to believe in something if our doubt is to make any sense. 'If you tried to doubt everything you would not get as far as doubting anything. The game of doubting itself presupposes some certainty' (Wittgenstein, 1969, §115, 18e). In a nutshell, according to Wittgenstein, we simply cannot provide rational grounds for everything we believe nor can we doubt everything we believe. Both projects are incoherent. What we are left with is what Pritchard calls knowledge that rests upon arational, indubitable hinge commitments.

What are these hinge commitments that we presuppose and hold on to? This is a crucially important question if we are to understand human psychology and epistemology. However, once we start identifying and classifying hinge commitments we necessarily move beyond hinge commitments recognized by Wittgenstein himself. It seems to us defensible, however, to think of Wittgenstein as introducing the general idea of hinge commitments in the specific case of ordinary empirical beliefs in a way that leaves open the possibility of other types of hinge commitments. Even the class of ordinary empirical beliefs is quite heterogeneous, and includes (among others) various examples of Moorean common-sense truisms discussed in *On Certainty*: that I (for example) have two hands, that there are other people in the world beside myself, that we all live on earth, that the earth was not created yesterday, that I grew up in Belgrade while some other people grew up in other cities, towns, or villages. All of these heterogeneous beliefs, in fact, make our conversations about, as well as our debates on, particular states of affairs possible (e.g., the debate whether the birthplace of Julius Caesar was Rome or Beneventum). It is hard to imagine how we would argue about anything with someone who would claim that the earth did not exist five minutes ago and that there are no other people, nor places where they were born.

Now, the next question is whether it is possible to extend this epistemology of hinge commitments from the basic case of ordinary empirical beliefs to the

*prima facie* quite different case of religious beliefs? Pritchard argues that this is a defensible move, and that there are both regular religious beliefs, beliefs that may be supported by other, more basic beliefs of the same kind, and religious beliefs that are basic hinge commitments: this is his quasi-fideistic development of Wittgenstein's philosophy of religion. Let us briefly see how this works.

Pritchard argues that while writing *On Certainty* Wittgenstein relied on insights gained from *An Essay in Aid of a Grammar of Assent* by John Henry Newman (Newman, 1870/1979), which is primarily a text that examines the nature of the relationship between religious and nonreligious beliefs.<sup>6</sup> According to Newman, religious and nonreligious beliefs should not be judged by different criteria, especially when it seems that the more strict ones are applied to religious beliefs. According to Newman, it is believers who are traditionally asked to provide rational support for their beliefs while most of our common sense nonreligious beliefs do not face the same challenge. That is, we are not required to provide further reasons for believing them. But, should somebody ask us, we would not be able to provide further support. In this sense there is no difference between our religious and nonreligious beliefs even though this is often not acknowledged. As Pritchard notices, the examples of these nonreligious beliefs that we take for granted and that Newman cites in his book are remarkably similar to the Moorean certainties Wittgenstein talks about in *On Certainty*. Newman says:

We are sure beyond all hazard of a mistake that our own self is not the only being existing; that; there is an external world; that it is a system with parts and a whole, a universe carried on by laws; and that the future is affected by the past. We accept and hold with an unqualified assent, that the earth, considered as a phenomenon, is a globe; that all its regions see the sun by turns; that there are vast tracts on it of land and water; that there are really existing cities on definite sites, which go by the names of London, Paris, Florence, and Madrid. We are sure that Paris or London, unless suddenly swallowed by an earthquake or burned to the ground, is today just what it was yesterday, when we left it. We laugh to scorn the idea that we had no parents though we have no memory of our birth; that we shall never depart this life, though we can have no experience of the future. (Newman, 1870/1979, 149)

All of the above are usually taken to be reasonable beliefs beyond any doubt and yet for most of them we are not able to provide any further reasons that would be more certain than they are. Here Newman is developing what

6 There are certainly some striking parallels between *On Certainty* and Newman's *Grammar of Assent*. But neither Pritchard nor Kienzler, on whose paper (Kienzler, 2006) Pritchard relies, have produced any significant evidence for the view that, as Kienzler says, 'from 1946 until 1951 [i.e., Wittgenstein's death] Newman's *Grammar of Assent* was probably the single most important external stimulus for Wittgenstein's thought' (Kienzler, 2006, 117).

Pritchard calls a 'parity argument' in defense of religious beliefs. Unlike Locke (1689/1979) who thought that religious beliefs are the same as nonreligious beliefs because they can be tested and supported by rational reasons, Newman argues that all of our beliefs *lack* support in the same way.

Pritchard proposes that this is exactly Wittgenstein's view on religious beliefs. If so, those beliefs depend on certain hinge commitments. These are groundless, but so are the hinge commitments of regular beliefs. Along these lines Pritchard's concludes:

The crux of the matter is that the basic religious convictions of one who has faith will form part of that person's hinge commitments, and hence will be part of the bedrock against which rational evaluations are undertaken. In this way, some of the person's religious beliefs will be rationally held, and hence in the market for being rationally grounded knowledge, even though such beliefs presuppose essentially arational hinge commitments. (Pritchard forthcoming, 12).

However, it is important to note that this kind of parity between religious and nonreligious hinge commitments is not entirely warranted. That is, it seems that we would need to know more about the nature of hinge commitments in general and religious hinge commitments in particular to be in a position to conclude that religious hinge commitments are no different in epistemic status from the hinge commitments of regular beliefs. We will come back to the specific nature of religious hinge commitments shortly, but first we should look at what Pritchard has to say about the nature of hinge commitments. The first thing to notice, Pritchard argues, is that these commitments are not regular beliefs nor do they come in such form. At first sight this does not sound right. That is, it looks as if hinge commitments (e.g. 'I have two hands', 'No man has ever stepped on Mars') are no different from normal beliefs. It seems that we can (and we do!) express them in language and judge their truth or falsity accordingly. However, despite appearances, Pritchard argues that we should not think of them in this way. According to him, this basic kind of knowledge that does not consist of propositional attitudes on the basic level even though we, as creatures with language, can express it in such a way. However, the ability to express these commitments in language should not mislead us into thinking that they are no different from regular empirical beliefs that can be supported by invoking other beliefs. That is, as Pritchard puts it, we should not think of them as beliefs acquired via a rational process (Pritchard forthcoming, 7).<sup>7</sup> It is important to keep in mind that what Pritchard is trying to do here is to draw a distinction between our everyday/scientific knowledge and hinge commitments even

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7 While addressing the nature of hinge commitments as not beliefs in a regular sense (beliefs as propositional attitudes) Pritchard explicitly says: 'Once we recognize that our hinge commitments are not beliefs, however—and, relatedly, not the kind of propositional attitudes that can be acquired via rational processes [...]' (Pritchard forthcoming, 7)

though the latter might appear, at least in their form, as no different from the former.

Also, as Pritchard notices, it seems that not all of these commitments belong to the same class. For instance, the fact that I have hands and the fact that no human foot has ever stepped on Mars are different in many ways. We can easily imagine some future world in which there are human colonies on Mars (and hence that would cease to be one of our hinge commitment) but it is hard to imagine the world in which human beings have no hands and are uncertain about their (non)existence. Furthermore, if we take the Mars example it seems that some hinge commitments are confined to the time and place we live in. If that's the case then it seems that there is nothing to prevent us from saying that truths are relative to cultures, and that the cultures are incommensurable because they rest on different hinge commitments. But for Pritchard this is not necessarily the case. According to Pritchard's interpretation of Wittgenstein, Wittgenstein is trying to establish some sort of hierarchy among various hinge commitments (or at least hints at how it could be done). Thus Pritchard argues that there is a general *über* commitment that marks all other hinge commitments. Such *über* commitment is the feeling that 'we are not radically and fundamentally wrong' and all other hinge commitments contain it. This is how we know that we are dealing with a hinge commitment in the first place.

But then the question is whether *any* convictions, whatever its status *vis à vis* our other beliefs, might qualify for a hinge commitment. Pritchard argues that this is not the case. If we start believing firmly one day that there are fairies at the end of the garden, this won't qualify as a new hinge commitment as it does not fit into our existing belief system. Also, even though hinge commitments of different cultures may look vastly different, we need to take a closer look and analyze them. That is, what might appear as a distinct commitment, unrelated to our other beliefs, might in fact be subsumed under a more general one. Our hinge commitments are usually of a mundane nature: e.g. that we have two hands, that we live in London or Belgrade etc. But, different hinge commitments that people have about places they live in are not incommensurable. On the contrary, people who have these commitments have in common one, so to speak, umbrella hinge commitment summarized as 'people have homelands and hometowns' (despite the fact that in most cases it will be different homeland or hometown). Along these lines Pritchard concludes: 'Indeed, if anything, I think we should expect there to be large overlaps in hinge commitments, of a kind that should militate against the possibility of a widespread epistemic incommensurability'. (Pritchard forthcoming, 9)

Now, we believe that this kind of analyses of hinge commitments is something that we need to expand and develop further. Particularly because we think that it is of great importance to examine how religious hinge commitments that nonreligious people see as anything *but* mundane beliefs

become exactly that for a believer. In other words, in the world of a believer it seems that 'God exists' stands as a hinge commitment along with many others such as that there are other people, that we live in Belgrade, that the earth has existed for many years, that we have two hands. To clarify this is of crucial importance. Before this is done there is little reason to accept Pritchard's view of the epistemological status of religious beliefs.

So, how does it happen that the existence of God becomes certainty for a believer? In order to understand this we need to classify further basic religious commitments. For this purpose conceptual analysis alone will not suffice. In addition to it we need to ask a psychological question: how do we acquire these basic hinge commitments? Wittgenstein was aware of the importance of this question and he hinted at the answer. He says that they are 'swallowed down' (Wittgenstein, 1969, §143, 21e) along with the basic picture of the world. Obviously, Wittgenstein meant to differentiate between 'swallowing down' as a process of acquiring hinge commitments and a rational process through which we, e.g., learn history. However, we need to be more specific than that. In the next two sections we turn to these questions. First, we illustrate how one kind of hinge commitment is acquired, namely how we acquire our knowledge of other minds. The closer look at this particular hinge commitment will hopefully help us see to what extent our religious beliefs and commitments are similar to or different from others. We then turn to the analysis of the nature and the acquisition of our religious beliefs.

### 3. Hinge commitments and their acquisition: the case of social cognition

The acquisition of a hinge commitment that is probably most extensively studied concerns our knowledge that other people exist and have inner lives full of hopes, desires, intentions, and thoughts; lives that are similar to our own. Psychologists call this kind of knowledge social cognition. Its nature and developmental vehicles involved in its acquisition have been a matter of dispute. However, we believe that this knowledge represents one of the best examples of a basic hinge commitment even though, so far as we know, Wittgenstein himself never mentions it as such. Now, what does it mean to say that our knowledge of other people's minds is a basic hinge commitment? M.R.M. ter Hark<sup>8</sup> (1991) provides an answer. He argues that our basic

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8 M.R.M. ter Hark (1991) has suggested a Wittgensteinian attitudinal approach to the problem of other minds. His proposal is similar to other standard Wittgensteinian approaches in understanding the relation between our inner states and outer behavior as a conceptual one. It differs from other Wittgensteinian approaches in its main thesis, namely that the fundamental knowledge of others (knowledge that is the basis of our beliefs about other people's mental states) is not a belief (propositional attitude), but rather an attitude toward others. This attitude is an intuition that we already have when

knowledge of ourselves as well as of others does not take a developed linguistic form. In other words, it does not consist of beliefs that are to be further supported by reasons and evidence. It is essentially prelinguistic. Along these lines Hyslop says: 'Something perhaps deeper than knowledge applies in one's own case, something prelinguistic even.' (Hyslop, 1995, 124). In the case of other people this knowledge is also not a belief, but rather an attitude that we take toward others. This attitude is also prelinguistic. To have a proper attitude toward others means always treating them as persons with their inner mental lives, never as mere physical objects. In other words, this knowledge is more like perceptual knowledge than inferential/demonstrative knowledge. When we see another person falling down the stairs we immediately see (and know) the pain they feel. The immediacy of such experience does not leave room for an elaborate inferential process that supposedly lies behind our knowledge that this person is in pain.

So far so good, but it seems that even though this knowledge of others might be a prelinguistic hinge commitment, we can still talk about other people's mental states and speculate (in language) about what they feel and whether we got that right. To see how it is possible to have arational knowledge about the existence of other minds that cannot be further justified but at the same time be able to express such knowledge in language and ask further questions about the nature of other people's thoughts and feelings can become clearer when we take a look at the way children acquire such knowledge.

Children acquire intuitive, arational knowledge of other people very early, during the first year of their life, before they begin to use language. Once their language develops they become able to enlarge this intuitive knowledge, express it verbally and, as competent language speakers, ask further questions about the nature of other people's beliefs and feelings. There are many important steps in the development of social cognition that psychologists have identified. This includes the development of social orienting (the tendency of a child to look at the person not the objects), emotional recognition (recognition of different facial expressions), social referencing (in novel situation checking the caregiver's emotional expression in novel situations to determine if it is dangerous or not) joint attention (the ability to focus together with a caregiver on a particular object) and the like.<sup>9</sup> All of these indicate that a child treats other people as conscious, emotional beings long before she starts to use language. A child's knowledge of others

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we form beliefs (propositional attitudes) about particular people. Radenovic (2014) argues that such a distinction, between the intuitive general attitude toward other people and particular beliefs about their mental states, seems to be needed to make sense of what we know about the development of social cognition and language.

9 There is extensive literature on the nature and development of social cognition. For a review see, e.g., Tomasello (1999), Suzanne Hala (1997).



is then best understood as a hinge commitment that is not a belief but is nonetheless some kind of intuitive, pre-linguistic knowledge. In other words, this pre-linguistic knowledge of others as persons that is pre-linguistic is acquired in the first months of life and is a hinge commitment that stays with us later in life. As such it provides the framework in which we can ask specific rational questions about other people's beliefs and emotional states. But, even though we can wonder if a colleague of ours is being honest or not, if our friend really suffers as she says she does, or if our neighbors are really liberal democrats as they claim to be, we cannot, in the same way, question whether other people have minds and whether they are persons at all. This is a basic hinge commitment for which we cannot provide more secure evidence than what we already have.

Now, let us see if the model of the development of social cognition can be applied to our religious hinge commitments and beliefs. If this cannot be done in some straightforward way it is important to examine the differences and see what these differences tell us. The first striking difference between our knowledge of other people's minds and our knowledge of God is that it seems unquestionable that children acquire belief in God (including its arational basis) linguistically. Even if our social practices play an important role in this acquisition (and they do, as we will see shortly) they nonetheless involve the use of language. As we have seen, our knowledge of other people's minds (or more specifically our hinge commitment that other people have minds and that they are persons) is acquired through preverbal communication with caregivers. So, the origins of our religious beliefs cannot be located in the first year of a child's life. Secondly, all people share a hinge commitment about the existence of other people's minds (except for the individuals with autistic spectrum disorder<sup>10</sup>) but not all of us become religious. So, this difference tells us that they cannot be acquired via the same social and psychological mechanisms.

Now, the question is what are these mechanisms for 'swallowing down' basic religious beliefs? So far we know that they are not the same as those involved in the acquisition of social cognition even though many people become religious when they are children (Benjamin Beit-Hallahmi & Michael Argyle, 1997). If we stick to philosophical conceptual analysis, we could ask whether religious beliefs are learned like any other basic Moorean certainties such as 'Today is Monday', 'I live in Belgrade', 'No human being has ever stepped on Mars'. But, is it really the case that the arational core of our religious beliefs is acquired in the same way as for instance the name of our hometown? Somehow, this does not sit well with our basic intuitions either. These intuitions tell us that the beliefs about the world even if they are classified as hinge commitments are of a different kind and play different

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10 See e.g. Peter Mundy (1995), Simon Baron-Cohen (1995).



functions in our lives from those of religious hinge commitments. To assume that our arational religious core is differently acquired than regular Moorean hinge commitments becomes even more plausible when we examine closely the conditions under which we are ready to give up or revise such commitments. For instance, as we have seen in previous sections, we can imagine some future successful human expedition to Mars that would change this basic hinge commitment: that no human being ever stepped on Mars. But, then it seems that our religious beliefs are resistant to similar scenarios (or at least some of these beliefs are). It is hard to see that any similar event would be able to undermine singlehandedly the faith of a religious person. Pointing out to the religious person that we have never had convincing evidence for God's existence will not suffice, nor will any fact newly discovered by the sciences be able to turn a religious person into an atheist. As we have seen, Wittgenstein was more than aware of this peculiar feature of our religious beliefs. Now, some people do lose their faith and it is important to see under which conditions. Moreover, the conversion could go both ways. That is, there are people who were never religious and all of a sudden turn into believers, while some people who were believers lose their faith. Such transforming religious experience, both positive and negative, needs to be carefully studied if we are to understand better the nature of religious hinge commitments. That is, such dramatic changes in faith presuppose that a person in an unusual way changes the core of their worldview in an unusual way. However, such change does not come as a result of some new human achievement as in the hypothetical case of the first men on Mars, but in some other way. Religious conversion as such is a different kind of phenomenon from the ordinary 'change of mind' and deserves further research into its origins.<sup>11</sup> Let us add that Wittgenstein was more than aware of these possibilities. He indicated the very specific nature of such change when he said that 'Life can educate one to belief in God' (Wittgenstein, 1998, 86). He says here that some extraordinary life experiences can make us religious, but they are not reducible to nor are they of the same nature as the discovery of a new empirical fact.

So far we have broadly outlined how the acquisition of basic religious hinge commitments must differ from the acquisition of the hinge commitments of social cognition and other Moorean certainties. In the next section we examine more closely the nature of religious upbringing and identify social mechanisms that foster faith in children. But, there are still important philosophical questions to tackle too. Pritchard does offer a quasi-fideistic interpretation of Wittgenstein and proposes quasi-fideism as a way to understand the nature of religious beliefs, but he does not make the attempt to classify further the variety of religious beliefs. This too will be our goal in the next section.

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11 For psychological studies on conversion see e.g. Benjamin Beit-Hallahmi & Michael Argyle (1997).

#### 4. Classification and acquisition of religious hinge commitments

As we have seen, Pritchard argues that we should think of our religious beliefs as having an arational core. This means that such an arational core does not have, nor does it require further support. It does not come in the form of a propositional attitude (i.e. belief) and it is of an intuitive nature. In this way it is on the same footing as other hinge commitments. This also means that a religious person's belief in God is just as strong as our belief that we have two hands or that other people have minds. It may be compared epistemologically to some perceptual beliefs and represents a simple fact in the believer's life. With this hinge commitment in place a believer can discuss how it is that God is just and merciful at the same time or what it means to be humble. But the framework that makes these discussions among believers possible is the unquestionable existence of God. Now, to understand better the nature of our religious hinge commitments and to see if, for instance, 'God exists' is the only religious hinge commitment or whether there are more of them, we need to examine closely the diversity of religious beliefs. So, let us start as philosophers first and then see how psychologists could help us.

As philosophers we need to engage in conceptual analysis and see which of our religious beliefs are arational and which ones are subject to discussion and argument. That is, which ones represent hinge commitments and which ones are beliefs about which we can reason and argue. What we offer here is a preliminary analysis, but analysis that we believe needs to be done. There are all kinds of beliefs that people loosely qualify as religious: from the belief in God (a higher power in general), to the belief in a particular God (Hebrew, Christian, Muslim). Then, there are more specific religious beliefs such as the Christian belief in resurrection. And, finally, there are those beliefs about which we occasionally read in the newspapers. For instance, when we read that a middle aged woman from Arkansas claims to have seen Jesus Christ in the night lamp or in a piece of wood. Even at first sight it is clear that not all of these beliefs are hinge commitments. Let us make a preliminary and easy first distinction among these beliefs: the belief in God would be a hinge commitment while the belief in seeing Jesus in the night lamp can be rationally debated. Upon closer inspection the latter can turn out to be a form of superstition that, as we have seen, Wittgenstein fiercely argued against. If seeing Jesus in the piece of wood is treated as a sign of good luck or a sign that somebody will be healed etc. then this belief belongs to a pseudo-technological stance. For Wittgenstein that would make it superstition, not a genuine religious belief. But, even if 'seeing Jesus' in a night lamp was not understood in this instrumental way it could still be understood as a confirmation of somebody's faith in a proto-scientific sense (as providing the empirical evidence for our belief in God). The very need

to confirm our faith by empirical evidence seems to be proto-scientific, not a proper religious need.<sup>12</sup>

But beside beliefs that miracles happen (to us) on a regular basis and the belief that there is a God, there are beliefs that are in between. They too are in need of sorting out. Thus, there is a question what to do with the beliefs in a specific God: Hebrew, Christian or Muslim. Or, with the belief in the resurrection of Jesus Christ. The latter seems to be the hinge commitment of a Christian, but not of a Muslim or a Jew. It certainly has been so for Wittgenstein: 'Perhaps one may say: Only love can believe the Resurrection. Or: It is love that believes the Resurrection. One might say: Redeeming love believes even in the Resurrection; holds fast even to the Resurrection. What fights doubt is, as it were, *redemption*. Holding fast to *this* must be holding fast to that belief' (Wittgenstein, 190, 33e). At this point, we need to pose the question how these beliefs are acquired since that seems to be the most promising way to determine which religious beliefs constitute our religious hinge commitments. That is, only when we learn what exactly is 'swallowed down' and what is rationally or irrationally acquired in our religious upbringing will we be in a position to identify which of our religious beliefs constitute the core of our faith that cannot be given up without a radical change in our religious view.

Both philosophers and psychologists of religion do have something to say about how we acquire religious beliefs. For instance, Cottingham (Cottingham, 2006, 415–418) argues that through everyday religious practice we become religious and compares this to the way we become virtuous according to Aristotle (namely, by doing virtuous actions). He even goes on to say that becoming religious is like learning to walk. 'We figure out how to walk by walking and that is how we learn to trust God (i.e. by trusting him)' (Cottingham, 2006, 420). Along the same lines Stanley Hauerwas (Willimon & Hauerwas, 1996, 18) emphasizes how developing certain habits is important for religious life. Habits such as prayer and reading the Scripture are there to help the believer to avoid distractions and pay attention to God. They are there to develop and secure our faith in God. This is, in a nutshell, how certain philosophers tend to understand Wittgenstein's process of 'swallowing down' religious beliefs. These suggestions are not so different from what psychologists tell us about the development of faith in children. The first important point emphasized by the psychologists of religion is that the acquisition of religious beliefs is not mere acquisition of a belief system, but the acquisition of an identity (see Benjamin Beit-Hallahmi & Michael Argyle, 1997). We become who we are through our religious upbringing. This means that growing up in a religious family tends to ensure (or at least is

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12 Formation of religious beliefs of this kind and religious experiences that contribute to it should be explored further. It would be interesting to see what kind of people seek such empirical confirmation and under what circumstances.

meant to ensure) that the child sees and interprets the world in a particular way. So, by becoming religious, i.e. by endorsing certain religious beliefs, we do not acquire 'beliefs capable of correction by perceiving properly, but [we acquire] the very terms in which we perceive the world, almost ... the condition and grounds of consciousness itself' (Dollimore, 1984, 9). This quote is in line with Wittgenstein's saying that no empirical evidence can undermine our belief in God.

Now, how is this religious identity (that goes beyond the mere acceptance of a religious doctrine) acquired? The child is introduced to a religious life of her community through particular religious practices, and through participating in such practices she starts attaching meaning to particular events. Those practices form the basis for the child's value system and determine which qualities and events she is going to experience as important. In other words, such practices secure the meaning of a certain way of life and '*must* be recreated by individuals if they are to remain plausible' (Brown, 1988, 67). In this way through praying, going to church, receiving the Eucharist and the like, the child's identity is given definition. Children who grow up in secular families participate in entirely different social practices and so the belief in God does not become the bedrock of their identity. For instance, different meanings are created when the child celebrates New Year's Eve in a secular family and when the child celebrates the birth of Jesus Christ in a Christian family, even though some of the important rituals are the same: e.g., giving presents and decorating the Christmas tree. The child enters these religious practices of her community through her significant others, i.e., first and foremost her family. The mother's role seems to be of crucial importance here (Brown, 1988). Later, in adolescence, the peer group can influence the child (Hunter & Youniss, 1982; Bronfenbrenner, 1979). Nonetheless, to what extent the child will remain religious as an adult is best predicted by the extent to which her mother was religiously active (Hunsberger & Brown, 1984).<sup>13</sup>

From the above findings and insights we can draw an important conclusion, namely that children acquire religious feelings/attitudes together with some basic religious metaphysics. In other words, children acquire a religious attitude toward God through being initiated into the religious practices of their community. However, those religious practices do not take place in a vacuum. Through participation in those practices children acquire certain pictures associated with God (like the image of praying, of Virgin Mary, of the crucifix and the like). Once they associate those specific practices with these particular images they develop an emotional acceptance, amounting to a hinge commitment, that God exists along with the metaphysical beliefs accompanying it, such as the belief in Jesus Christ and the resurrection. The religious feelings together with some metaphysical beliefs become religious

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13 For the summary of the statistics of parental influences on religiosity of children and adults see Benjamin Beit-Hallahmi & Michael Argyle (1997).

hinge commitments. Thus, the conclusion we reach is in line with what psychologists tell us. 'People do not internalize abstract norms, but images of themselves in concrete relationships with specific people or groups' (Miller, 1963, 666). Or as Benjamin Beit-Hallahmi & Michael Argyle nicely put it:

Children become aware of their group affiliations (religion, class, or ethnicity) before they acquire a particular set of beliefs. First they find out that they are Roman Catholic, a Baptist, or a Moslem, and only then will they learn that, as a Roman Catholic, as a Baptist, or as a Moslem, they are supposed to espouse certain beliefs. Later on these beliefs seem as natural as the ascribed identity. (Benjamin Beit-Hallahmi & Michael Argyle, 1997, 98)

Now, when we have a clearer understanding of how our religious beliefs develop we can return to the philosophical attempt to categorize religious beliefs. It seems that the belief in a specific God (Hebrew, Christian, Muslim) is to be treated as a hinge commitment, not as a regular belief. The same applies to the Christian belief in Jesus Christ and the resurrection. The general belief in God and the belief in a particular God of a particular tradition cannot be separated in the child's upbringing and as such become a religious hinge commitment; a commitment that cannot be overturned by empirical evidence or scientific truths. In other words, our religious/emotional attitude is inseparable from at least some metaphysical beliefs of the religious tradition we are brought up in. It is interesting to note that this view is also present in the thought of the famous Orthodox theologian George Florovsky. According to Florovsky, religious beliefs are certain if properly grounded in ecclesial experience. Religious beliefs are akin to perceptual beliefs, and the reliability of religious belief is secured by the knower's ecclesial incorporation. Florovsky's proposal requires a process of conforming one's personal judgment to the church tradition (Gavrilyuk, 2014, 228).

Our sketch of the way religious beliefs are acquired comes to an end here. Even though it is our contention that further analysis in this direction is of crucial importance for our understanding of religion and the role it plays in human life, there are some preliminary conclusions that we may draw here. First, we have to admit that the above analysis of the origin of religious hinge commitments is of no help when it comes to differentiating between beliefs of major religious traditions. We have acknowledged that a religious upbringing fosters particular hinge commitments in a child, and such commitments include some specific religious beliefs such as the Christian belief in the resurrection. However, given that the believers of, e.g., Jewish or Islamic faith do not share these specific hinge commitments, it seems that there is no way to settle their disagreement with Christians or, indeed, the disagreement between themselves on rational grounds. Thus, the hinge epistemology of religious beliefs cannot help us decide which specific set of religious beliefs is more likely to be rationally acceptable, let alone true. It can only give us

a psychological explanation why the believers hold the beliefs they do as indubitable. But, as we have seen, it can help us distinguish between religious hinge commitments, scientific beliefs and ordinary superstition.

Second, it seems that we are now in a better position to see to what extent the world of a believer and a nonbeliever overlap. During the last century or so we have witnessed various attempts by philosophers to overthrow religion by invoking evolution. These have been opposed by creationist accounts of the origin of life. But is the battle won or lost on those grounds? If we follow Pritchard's Wittgensteinian quasi-fideism, the answer is: not necessarily. All of these beliefs, if they are not hinge commitments, are about the common world shared by a nonbeliever and a believer. They can be decided on rational grounds. But, regardless of how they are decided, that will not affect the core hinge commitments of a believer or a nonbeliever. In a sense there is no battle there. Again, in order to draw such a conclusion, we need to see if the Biblical claim that the earth is five thousand years old is a hinge commitment of a Christian in the same way that the belief in resurrection is. This does not appear to be the case. This claim seems to be similar to 'No man has ever set foot on Mars', and is thus open to refutation in a similar way, as opposed to the belief in resurrection. The same applies to questions related to evolutionary theory. This is a theory about particular states of affairs in the world and is part of the scientific attempt to explain the world. Now, this should not be problematic for a believer who can presume that evolutionary dynamics are derived from the will of God. After all, as we all know, the belief in the geocentric system was rejected by the scientific community, but also by the Church, and that did not undermine the belief in God and Jesus Christ of an average Christian or even an average scientist of Christian faith.

In conclusion, we wish to draw attention to a related point. If we are to end one of the longest culture wars, the one between atheists and religious believers, a conceptual analysis of the status of religious and non-religious beliefs is of crucial importance. When we realize that some religious beliefs are nothing but masked proto-scientific or pseudo-technological beliefs (i.e., superstition) that aim to provide an account of the world or use this account to influence how we act, we can, as suggested above, adjudicate the dispute by dismissing such beliefs as superstition or false science. But the believer's faith in God cannot be overthrown in this way: we can say, with Wittgenstein, that this is the wrong target and that scientific evidence cannot work on a believer, not because she is irrational, but because her hinge commitments lie elsewhere.

Finally, atheists might say that religious hinge commitments are different from all other hinge commitments in virtue of being optional. All others are more or less shared by everyone. Everyone has knowledge of other minds and believes in the Moorean certainties (except people with specific mental disorders). But, not all of us are religious. There are people (and Wittgenstein



seemed to be one of them) who never had, nor were ever able to develop, faith in God. Now, if being religious is optional, why not be in favour of a world without religion of any kind? The problem with this kind of attitude is that it neglects the reality of human spiritual needs, needs that science does not fulfill. We believe that further psychological inquiry into the nature and acquisition of religious beliefs is crucial if we are to understand the kind of existential, psychological and spiritual needs we as human beings typically tend to have. It is our contention that this is also crucial if we are to get a better insight into the epistemological status of such beliefs. When all is said and done, these human needs and religious beliefs are here to stay: it is our task to try to explain them, not to deny them.

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