

# WITTGENSTEIN'S EARLY PHILOSOPHY OF LANGUAGE AND THE IDEA OF 'THE SINGLE GREAT PROBLEM'

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## I. A 'single great problem'

In 'Notes on Logic', Wittgenstein writes: 'In philosophy there are no deductions; *it* is purely descriptive' (NL p. 106).<sup>1</sup> Wittgenstein's sense of a profound distinction between philosophy and scientific theorizing might be regarded as the fundamental starting point for his philosophical reflections. However, this guiding intuition clearly leaves a great deal undetermined. What is the purpose of a purely descriptive philosophy? And how is the task of description to be approached? In the same section of 'Notes on Logic', in a sentence that survives virtually unchanged in the *Tractatus*, Wittgenstein indicates at least one of the purposes of description as follows: 'A correct explanation of logical propositions must give them a unique position as against all other propositions' (NL p. 107; cf. TLP 6.112). The use of the word 'explanation' in a paragraph in which he has just described philosophy as 'purely descriptive' should not be seen as contradictory. Insofar as the idea of 'correct explanation' is to be understood as a call to make the distinction

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1. References to 'Notebooks' (NB), 'Notes on Logic' (NL) and 'Notes Dictated to G.E. Moore' (NDM) are, unless indicated otherwise, to the editions in *Notebooks, 1914–1916*, ed. by G.H. von Wright and G.E.M. Anscombe, trans. G.E.M. Anscombe, 2nd edition, 1979, reprinted 1998 (Oxford: Blackwell).

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between the propositions of logic and other propositions perspicuous, it is something that is to be achieved by description alone and should not involve anything ‘hypothetical’. The remark is, nevertheless, revealing as to the nature of Wittgenstein’s early conception of his philosophical task of clarification. For it shows that Wittgenstein is working with a preconceived idea of the logical structure of our language, which is expressed in ‘the logical propositions’, whose unique status must somehow be made apparent. It is clear that Wittgenstein himself does not consider where this idea of ‘the logical structure of our language’ comes from, but that he allows it to determine how he conceives the purpose of description and to dictate, at least in part, his approach to the task of clarification.

Wittgenstein’s early philosophy of language is dominated by a particular set of problems.<sup>2</sup> The problems that preoccupy him include the nature and status of the propositions of logic, the nature of truth and falsity, the nature of negation, and of the logical constants generally, and the nature of inference. Wittgenstein is, moreover, convinced that, at bottom, each of these problems is an aspect of what he calls in the *Notebooks* ‘a single great problem’:

The problems of negation, of disjunction, of true and false, are only reflections of the one great problem in the variously placed great and small mirrors of philosophy. (NB p. 40)

He instructs himself not to try to treat each of these problems piecemeal:

Don’t get involved in partial problems, but always take flight to where there is a free view over the whole *single* great problem, even if this view is still not a clear one. (NB p. 23)

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2. The idea that Wittgenstein’s early philosophy of language is directed at resolving a particular set of problems seems quite compatible with a conviction that these problems will be solved by means of the elucidation of logical distinctions, rather than by means of a theory. However, it also suggests that we should read the *Tractatus* as concerned with a substantial task of clarification, namely to make the nature of a proposition perspicuous. This idea is *prima facie* at odds with some of the claims of what has come to be known as the ‘resolute’ reading of Wittgenstein’s early work.

And he identifies this ‘single great problem’ as follows:

My *whole* task consists in explaining the nature of the proposition.  
(NB p. 39)

Wittgenstein appears to be convinced that we shall see everything clearly – the nature and status of the propositions of logic, negation, disjunction, inference, truth and falsity – when we see this one thing clearly: the nature of a proposition. It is not that we shall be able to *deduce*, say, the status of the propositions of logic, or the nature of negation, from the nature of a proposition; ‘in philosophy there are no deductions’. It is rather that coming to see the nature of a proposition clearly *is, at the very same time*, coming to see negation and the status of the propositions of logic clearly: we have here, not a number of separate problems, but one great problem. If the problem is to be solved, then it must be solved all at once and in its entirety. The idea of the single great problem is that once the nature of a proposition has become clear, then everything will be clear: the nature and status of the propositions of logic, the nature of negation, of inference, and so on. The question I’m concerned with in this paper is how Wittgenstein arrives at the idea of a single great problem that governs his conception of the work of clarification or description that he sees himself as undertaking in the *Tractatus*.

## 2. The significance of Frege and Russell

The significance of the work of Frege and Russell for Wittgenstein’s early thought is not a matter for dispute. The nature and extent of the impact of the work of each of these thinkers on Wittgenstein’s ideas is, however, more contentious.<sup>3</sup> Two things, at least, are clear. First of all, that Wittgenstein’s sense of the problems he confronts in his early work arises out of his engagement with the work of Frege and Russell; and secondly, that both his sense of what these problems are and his way of responding to them are highly distinctive. The *Tractatus* is Wittgenstein’s attempt to pursue the question of the nature of a proposition and the status of logic in a way that he believes to be both innovative and distinct from the approaches of Frege and Russell. Even though Wittgenstein is explicitly in dialogue with Frege and Russell, his philosophical concerns, his aims and his method are all very different from theirs. Yet the problems that preoccupy him are clearly ones that he detects in the work of Frege and Russell. The aim in this paper is to under-

stand how Wittgenstein himself perceives the philosophical context in which the ideas of the *Tractatus* are developed. I want to trace Wittgenstein's own highly characteristic conception of what is problematic or confused in what he sees as the available understanding of the nature of a proposition and the status of the propositions of logic, and in particular, to try to understand why he takes all the problems he confronts to be aspects of a 'single great problem'.

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3. Geach (1976) and Anscombe (1959) were the first to argue that the *Tractatus* could not be understood independently of the work of Frege. Diamond (1979, 1984, 1988), Conant (1991, 2002) and Ricketts (1985, 1996, 2002) have further developed the case for reading Wittgenstein's early work as an attempt to resolve what Wittgenstein saw as deep tensions in Frege's ideas. However, Goldfarb (2002) and Proops (1997) have argued that the emphasis on Frege's influence is likely to distort our understanding of the *Tractatus*, and Goldfarb argues that the work should be read principally as a response to Russell. It could also be argued, however, that it is important to recognize that Wittgenstein's conception of the problems he confronts, and the approach that he takes to overcoming them, is highly distinctive, not least in its idea of 'the single great problem', the problem of understanding 'the principles of representing *as such*' (NB p. 23). See G.E.M. Anscombe (1959): *An Introduction to Wittgenstein's Tractatus*, (London: Hutchinson and Co.). J. Conant (1991): 'The Search for Logically Alien Thought: Descartes, Kant, Frege and the *Tractatus*', *Philosophical Topics*, vol. 20, no. 1, pp. 115–180. J. Conant (2002): 'The Method of the *Tractatus*', in E.H. Reck (2002, ed.): *From Frege to Wittgenstein: Perspectives on Early Analytical Philosophy*, (Oxford: Oxford University Press), pp. 374–462. C. Diamond (1979): 'Frege and Nonsense', in *Intention and Intentionality: Essays in Honour of G.E.M. Anscombe*, C. Diamond and J. Teichman, eds., (Ithaca, NY: Cornell University Press); reprinted in C. Diamond (1995): *The Realistic Spirit*, (Cambridge, MA: MIT Press), pp. 73–93. C. Diamond (1984): 'What does a Concept-Script Do?', *The Philosophical Quarterly*, vol. 34 and reprinted in Diamond (1995). C. Diamond (1988): 'Throwing Away the Ladder: How to Read the *Tractatus*', *Philosophy*, vol. 63 and reprinted in Diamond (1995). P.T. Geach (1976): 'Saying and Showing in Frege and Wittgenstein', in *Essays in Honour of G.H. von Wright*, J. Hintikka, ed., *Acta Philosophica Fennica* 28, pp. 54–70. W. Goldfarb (2002): 'Wittgenstein's Understanding of Frege: The Pre-Tractarian Evidence', in E.H. Reck (2002, ed.): pp. 185–200. I. Proops (1997): 'The Early Wittgenstein on Logical Assertion', *Philosophical Topics*, vol. 25, no. 2, pp. 121–44. T. Ricketts (1985): 'Frege, the *Tractatus*, and the Logocentric Predicament', *Nous*, vol. 19, pp. 3–15. T. Ricketts (1996): 'Pictures, logic and the limits of sense in Wittgenstein's *Tractatus*', in *The Cambridge Companion to Wittgenstein*, H. Sluga and D. Stern, eds., (Cambridge: Cambridge University Press). T. Ricketts (2002): 'Wittgenstein Against Frege and Russell', in E.H. Reck (2002, ed.): pp. 227–251.

The main sources for understanding Wittgenstein's sense of the problems he confronts are the surviving notes that were made prior to the preparation of the text of the *Tractatus*: 'Notes on Logic'; 'Notes Dictated to G.E. Moore in Norway: April 1914'; and *Notebooks, 1914–1916*. It's here, and especially in the first of these, that we find Wittgenstein pinpointing what he takes to be deficient in the philosophical logic of Frege and Russell. There is, in these preparatory notes, already a well-developed sense that the problems he detects arise from a lack of clarity concerning the way language functions, that is, from a failure to observe what the use of language itself makes manifest. After 'Notes on Logic', Wittgenstein's critical remarks are woven in with attempts to clarify essential logical distinctions and to allow the real nature of logic and the proposition to make itself manifest. It is possible to trace in these remarks the development of most of the central ideas of the *Tractatus*: the idea of propositions as models of states of affairs, the idea of logical portrayal, the idea of internal relations, and the distinctions between saying and showing, between what is essential and what is arbitrary in a symbol, between names and relational expressions, between functions and operators, between general propositions and the propositions of logic, and so on. What is clear, however, is that all of these ideas arise in response to what Wittgenstein believes are the fundamental failures of Frege and Russell's understanding of logic and the nature of a proposition. Wittgenstein's principal concern is to make clear the distinctions that he believes Frege and Russell obscure or blur over, and thereby to remove the puzzles and problems that he believes their philosophy of logic gives rise to.

Although the ideas of the *Tractatus* arise out of Wittgenstein's critical engagement with the work of Frege and Russell, it is also the case that Wittgenstein's early work is written from the perspective of someone who shares a number of preconceptions with them.<sup>4</sup> Tom Ricketts characterizes this shared framework as follows:

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4. Writing in the *Philosophical Investigations*, Wittgenstein sees these preconceptions as aspects of a single grand illusion, a preconceived idea of the essence of language, that he later believes has its origins in ways of talking about propositions that 'seduce us into thinking that something extraordinary, something unique, must be accomplished by [them]' (*PI* § 93).

Wittgenstein ... retain[s Frege and Russell's] inchoate but guiding assumption first that logic frames all thought, and second that it is possible to give a clear, completely explicit and unambiguous expression to the contents judged true or false. (Ricketts, 1996, p. 59)

This shared commitment to the conception of logic as the essential framework of all thought has important consequences for the whole approach to questions of the nature and foundation of logic. On this conception there is no distinction between object-language and meta-language. Philosophical logic is understood to deal with concepts or notions that cannot be straightforwardly described or defined, insofar as a grasp of them is presupposed in our ability to use language to express thoughts at all. The so-called laws of logic are conceived as the essential framework that governs all thought which aims at truth. This conception of logic as the essential framework to the employment of language to express judgements is shown in Wittgenstein's commitment to the idea that where there is sense there must be perfect logical order, and to the view that any correct sign language must be translatable into any other, that they share a common essence. The problems that Wittgenstein focuses on in 'Notes on Logic', and the response that he ultimately makes to them, must be understood as emerging within the context of his general commitment to a universal conception of logic, and to the perfect logical order that must lie behind our ordinary language. My main concern in approaching Wittgenstein's conception of these problems is to try to come to understand his conviction that all the problems he identifies are somehow unified, or aspects of 'a single great problem'. He does not, as I have stressed, take himself to confront a series of unrelated problems, each one of which may be dealt with piecemeal, but with a single great problem that must be solved all at once and in its entirety. Our aim is to achieve some sense of how Wittgenstein arrives at this idea of 'a single great problem', of why he believes that all the problems he confronts have a common source that entails that one problem will disappear only if they all do.

### **3. Russell's theory of judgement**

Although the problems with which Wittgenstein is concerned are all ultimately to be seen as one, we can begin by dividing the problems into two main groups: those that arise in connection with the nature and status of the

propositions of logic and those that arise in connection with the nature of the proposition as such. Given Wittgenstein's anti-theoretical conception of philosophy, there is a question about how we should understand the dialectic of Wittgenstein's objections to Frege and Russell. Clearly, it would not be compatible with his fundamental conception of himself as engaged in a task of clarification to understand his objections to Russell and Frege as motivated by theoretical commitments. How else might we understand it? In the later philosophy, Wittgenstein famously describes himself as 'assembling reminders for a particular purpose' (*PI* § 127). In the context of the later philosophy, we can understand the remark as pointing, for example, to his technique of asking us to recall how we use a given expression: when we would say that someone had understood a word, is playing chess, is expecting someone to tea, is pretending to be in pain, and so on. By means of these reminders he tries both to counter a false view of the grammar of our concepts and to achieve an overview of how a region of our language actually functions. I want to suggest that we should read the early Wittgenstein's critique of the ideas of Frege and Russell in a similar spirit. Thus, the problems he raises should be understood as grounded in his sense of a clash between their philosophical conception of how language functions and the inchoate grasp of the logical order of language that comes with linguistic mastery. The inchoate sense of order that Wittgenstein appeals to is thoroughly coloured by the preconceptions that frame his early work. However, within the context of the idealized logical order that these preconceptions require, I want to read the early Wittgenstein as proceeding in a way that is generally associated with the later philosophy: he is assembling reminders of distinctions, or aspects of our use of language, which are elided or rendered problematic on Frege and Russell's accounts of how language functions. What he wants is that the logical order that he believes must already be there in our use of language be made perspicuous; his criticisms of Frege and Russell are directed at showing that they have not succeeded in making this order clear.

Let's begin with the problems that arise in connection with the nature of a proposition as such. I've argued that the central aim of the *Tractatus* is to make the nature of a proposition perspicuous, i.e. to make clear how a proposition expresses its sense. For Wittgenstein, to grasp the sense of a proposition is to grasp what it is for it to be true and, by the same stroke, what it is

for it to be false: a proposition has sense insofar as it has true-false poles. This highly distinctive conception of sense is expressed by Wittgenstein as follows:

Every proposition is essentially true-false ... Thus a proposition has two *poles*, corresponding to the case of its truth and the case of its falsehood. We call this the *sense* of a proposition. (*NL* pp.98-9)

The sense of a proposition is determined by the two poles *true* and *false*. (*NL* p. 101-2)

“[T]rue” and “false” are not accidental properties of a proposition, such that, when it has meaning, we can say it is also true or false: on the contrary, to have meaning *means* to be true or false: the being true or false actually constitutes the relation of the proposition to reality, which we mean by saying that it has meaning (*Sinn*). (*NDM* p. 113)

Achieving clarity concerning the nature of a proposition is fundamentally a matter of coming to see clearly how a proposition is related equally to its true-false poles; the problem of understanding how a proposition expresses its sense is the problem of understanding how a proposition represents a situation that either exists or does not exist.

Wittgenstein’s sense of the problem he confronts emerges, at least in part, through his critique of Russell’s multiple relation theory of judgement. His objections to Russell’s multiple relation theory of judgement focus on Russell’s failure to show that the constituents of a judgement must occur as constituents of a proposition with sense, i.e. of a proposition with true-false poles. Wittgenstein believes that Russell was clearly correct to reject the theory of judgement that he expressed in *The Principles of Mathematics* (1903),<sup>5</sup> which held that judgement is a relation between a mind that judges and a single complex object. For Wittgenstein, this view is equivalent to treating p in ‘A judges that p’ as the name of a complex. Against this, he points out that ‘[w]hen we say A judges that etc., then we have to mention a whole proposition’ (*NL* p. 94). That is to say, we cannot substitute the name

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5. B. Russell (1903): *The Principles of Mathematics*, (Cambridge: Cambridge University Press); 2nd edition, (London: Allen and Unwin), 1937.



of a complex – e.g. ‘the death of Caesar’ – for the proposition in ‘A judges that Caesar died’, and so the role of *p* cannot be to stand for a complex. Thus:

In “a judges *p*” *p* cannot be replaced by a proper name. This appears if we substitute “a judges that *p* is true and not *p* is false”. The proposition “a judges *p*” consists of the proper name *a*, the proposition *p* with its 2 poles, and *a* being related to both of these poles in a certain way. (NL p. 95)

Russell’s response to what he sees as the defects of his 1903 theory of judgement<sup>6</sup> is to hold that judgement has no single object, but is a multiple relation of the mind to what Russell takes to be the constituents of the proposition judged. The difficulty that Russell himself then struggles with is how to unite these constituents in a way that permits him both to distinguish judging from merely bringing an ordered series of objects to mind and yet to allow for the possibility of false judgements.<sup>7</sup> Wittgenstein clearly believes that none of the versions of the multiple relation theory that Russell comes up with is satisfactory, for none makes it perspicuous that the constituents of a judgement are essentially constituents of a proposition with sense, i.e. with true-false poles. Thus:

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6. Russell makes two principal objections to his 1903 theory; see B. Russell (1910): ‘On the Nature of Truth and Falsehood’, in *Collected Papers of Bertrand Russell*, vol. 6, J.G. Slater, ed., (London: Routledge). First of all, he thinks that it ‘seems evident that the phrase “that so-and-so” has no complete meaning by itself, which would enable it to denote a definite object as (e.g.) the word “Socrates” does’ (Russell, 1910, p. 118). Secondly, ‘if we allow that all judgements have Objectives [i.e. that judgement is a binary relation between a mind and a single object], we shall have to allow that there are Objectives which are false’ (Russell, 1910, p. 119). Russell not only finds the latter idea ‘almost incredible’, but it also leaves the difference between truth and falsehood ‘inexplicable’.
  7. The problems Russell struggles with are the problems of asymmetrical relations and of distinguishing between a genuine act of judgement and an act that merely brings a series of objects before the mind. See B. Russell (1912): *The Problems of Philosophy*, (Oxford: Oxford University Press), and B. Russell (1913): *The Theory of Knowledge: The 1913 Manuscript*, reprinted as *Collected Papers of Bertrand Russell*, vol. 7, E.R. Eames, ed., (London: Routledge).

When we say A judges that etc., then we have to mention a whole proposition which A judges. It will not do either to mention only its constituents, or its constituents and form, but not in the proper order. This shows that a proposition itself must occur in the statement that it is judged ... (NL p. 94)

Russell's attempt to avoid the problems of his early theory of judgement by treating judgement as a relation to the uncombined constituents of a proposition obscures the fact that what occurs in the context of 'A judges that ...' must be a proposition with sense, i.e. a proposition that represents a possible state of affairs. Russell's theory, Wittgenstein argues, fails to "make it impossible for me to judge that this table penholders the book" (NL p. 103; TLP 5.5422). The criticism may, at first sight, seem unjust. For Russell clearly does take it as a quite general constraint on judgement that what occurs in the context of 'A judges that ...' must be the constituents of a 'logically possible complex' (Russell, 1913, p. 112). However, it is also clear that this constraint on the possible content of judgement is not one which Russell succeeds in making internal to the structure of the proposition, 'A judges that p', itself. For there is nothing in the contribution that the expressions that occur on the right hand side of '... judges ...' make to the complex, which in itself guarantees that they can be combined to express a judgeable content. Russell needs something *in addition* to his account of the structure of the complex proposition in order to secure the requirement that it is impossible to judge nonsense, that is to say, he needs to specify which complexes are 'logically possible' ones, and thus which constituents can occur together in the context of 'A judges that ...'. The role that Russell assigns to the constituent expressions in 'A judges that p' does not itself provide this. Wittgenstein makes the point clearly, but telegraphically, in a letter to Russell in June 1913:

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 Rel[ation] R to b", if correctly analysed, the proposition "aRb. $\vee$ . $\sim$ aRb" must follow directly *without the use of any other premiss*. This condition is not fulfilled by your theory.<sup>8</sup>

Clearly, the only way this requirement can be met is by analysing ‘A judges that p’ in such a way that it is clear that what replaces p must be a proposition with sense, i.e. a proposition with true-false poles.

Wittgenstein’s criticisms of Russell’s multiple relation theory of judgement amount, therefore, to a rejection of the idea that an analysis of a proposition that has another proposition as a part can ignore the sense of the embedded proposition and deal directly with its uncombined constituents. He sums up the point as follows:

At a pinch we are always inclined to explanations of logical functions of propositions which aim at introducing into the function either only the constituents of these propositions, or only their form, etc. etc.; and we overlook that ordinary language would not contain the whole propositions if it did not need them ... (NL p. 101)

The only way out of the problems that he detects in Russell’s multiple relation theory of judgement is to attend more carefully both to how a proposition expresses its sense and to how a proposition with sense occurs in another proposition. For Wittgenstein, the essential bi-polarity of the expression occurring in the context of ‘A judges that ...’ shows that judging is ‘obviously not a relation in the ordinary sense’. A relation is something that holds between objects, that is, between what is referred to by means of a name. A name is not an expression with sense; it does not have true-false poles. Insofar as the expression that occurs on the right hand side of ‘... judges ...’ must be an expression with sense, it cannot stand for a relatum in a relation. It follows that judging ‘cannot be a relation in the ordinary sense’. Propositions, insofar as they have sense, cannot be relata, i.e. they cannot occur as arguments in relations. In order to understand the nature of a proposition, we must, Wittgenstein believes, make clear that the way in which a proposition with sense occurs in a larger proposition is quite distinct from the way in which a name occurs in a proposition: ‘a proposition cannot have to another *the* internal relation which a *name* has to the proposition of which it is a constituent, and which ought to be meant by saying it “occurs” in it.

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8. *Cambridge Letters: Correspondence with Russell, Keynes, Moore, Ramsey and Sraffa*, B. McGuinness and G.H. von Wright eds., 1995, (Oxford: Blackwell); p. 29.

In this sense one proposition can't "occur" in another' (*NDM* p. 116). In the analysis of 'A judges that p' that Wittgenstein himself gives, in *TLP* 5.54–5.5423, neither A, nor p, nor the constituents of p occur as relata; it is, rather, to recognize that the sounds that the other utters express a proposition with sense. We then use a proposition of our language with the same sense to give the sense of a speaker's thought or belief. Thus, Wittgenstein makes it clear that p in 'A says p', 'A believes p', etc. is essentially a proposition with sense and that we cannot substitute either a name or set of names.

#### 4. Frege's conception of truth

Wittgenstein's criticisms of Russell and Frege's treatment of truth and falsity and negation are also directed at showing that each of them fails in the central task of making perspicuous the essential bi-polarity of a proposition, i.e. in the task of showing how a proposition expresses its sense. I'll look first at truth and falsity. The problems that Wittgenstein raises in 'Notes on Logic' are directed explicitly at Frege's post-1891 idea that assertoric sentences are names of one of two truth-values.<sup>9</sup> Wittgenstein's aim is to show that insofar as Frege holds that true and false propositions designate distinct but equivalent entities, the True and the False, he fails to make the relation between sense and truth and falsity perspicuous. In treating the *Bedeutung* of true sentences as an equivalent and distinct object from the *Bedeutung* of false sentences, Wittgenstein believes that Frege fails to make clear that each proposition with sense essentially has two poles – a true pole and a false pole – each of which excludes the other.<sup>10</sup> Wittgenstein begins by observing:

If we overlook the fact that propositions have a *sense* which is independent of their truth or falsehood, it easily seems as if true and false were two equally justified relations between the sign and what is signified. (*NL* p. 97)

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9. G. Frege (1970): 'Function and Concept', trans. P.T. Geach, in *Translations from the Philosophical Writings of Gottlob Frege*, P.T. Geach and M. Black, eds., (Oxford: Blackwell).

10. The remarks on truth and falsity in 'Notes on Logic' all survive virtually unchanged in the *Tractatus* (see *TLP* 4.061–4.063).

To understand a proposition is to grasp its sense. To grasp the sense of a proposition is not a matter of knowing which truth-value it denotes, but of grasping what it is for the proposition to be true and, by the same stroke, what it is for it to be false. It is not merely that we grasp the sense of a proposition independently of a knowledge of its truth-value, but that truth and falsity represent opposite poles for a single proposition. Wittgenstein believes that an account that holds that true and false propositions are names of distinct and equivalent objects obscures the essential bi-polarity that he takes to constitute the sense of a proposition. Thus, the objects that Frege postulates as the *Bedeutung* of true and false propositions are, as objects, both independent of each other and have no essential connection with the concept of sense: the essential connection between sense and the mutually exclusive possibilities of truth or falsity is not made perspicuous. Frege speaks of these objects as ‘opposite’ to one another, but Wittgenstein objects that ‘opposite’ must here be understood, not as a logical relation, but as ‘an indefinable relation’ (i.e. a genuine relation) between two objects. On this conception, he believes, it would not be obvious, even if it were true, that every proposition has a sense that is either true or false.

Wittgenstein connects what he sees as Frege’s mistaken conception of truth and falsity with what he believes is an equally mistaken temptation to treat negation as a genuine function. Frege introduces negation as a function whose value is the False if the argument is the True, and is the False for all other arguments. Once again, he suggests, the nature of the opposition between  $p$  and  $\sim p$  is not made perspicuous. Frege’s account of negation ensures that, whichever of the two truth-values  $p$  denotes,  $\sim p$  will denote the other. However, what it fails to make clear is that  $p$  and  $\sim p$  are opposite in sense, i.e. that it is in virtue of the relation between the sense of  $p$  and the sense of  $\sim p$  that if one is true, then the other is false. Wittgenstein makes the point as follows:

(... Frege was quite right to use [truth-conditions] as a starting point when he explained the signs of his conceptual notation. But the explanation of the concept of truth that Frege gives is mistaken: if ‘the true’ and ‘the false’ were really objects, and were the arguments in  $\sim p$ , etc., then Frege’s method of determining the sense of ‘ $\sim$ ’ would leave it absolutely undetermined.) (*TLP* 4.431)

On Frege's account, negation is a function that takes us from one object as argument to another object as value; given the *Bedeutung* of  $p$ , we can determine the *Bedeutung* of  $\sim p$ . However, this way of "determining the sense of ' $\sim p$ '" tells us nothing about the relation between the sense of  $p$  and the sense of  $\sim p$ , in particular, it does not tell us that  $p$  and  $\sim p$  are of opposite senses. It is in virtue of the fact  $\sim p$  has a sense such that  $\sim p$  is true in exactly the circumstances that  $p$  is false that  $p$  and  $\sim p$  are essentially opposite in truth-value. Not only is there nothing in Frege's account that makes it perspicuous that  $\sim p$  is of opposite sense to  $p$ , but there is nothing in the account that shows how the sense of  $\sim p$  is determined. To treat the negation sign as a function which takes truth-values as arguments, is to fail to give a means to determine the sense of  $\sim p$ ; the sense of  $\sim p$  remains 'absolutely undetermined'.

Wittgenstein approaches the same point from the opposite direction and tries to show that the truth or falsity of a proposition cannot be treated on the model of a name's relation to an object. Couldn't we, he asks, decide to express ourselves by means of false propositions, as we have hitherto done with true ones, provided that we know that they are meant to be false? Clearly, the idea that we could do so assumes we have some grip on the notions of truth and falsity that is independent of their role in a practice of asserting propositions with sense. Thus, we can decide that although these propositions designate *that* property or *that* truth-value (the False) we are using them in such a way that we mean *this* property or *this* truth-value (the True). In the same way we might decide that although 'black' designates *that* property (black) we are using it in such a way that we mean *this* property (white). Wittgenstein now shows that this is nonsense. For our idea of what it is for a proposition to be true is just the idea of our using it 'to say that things stand in a certain way, and they do' (*TLP* 4.062). Thus, if we use the symbol ' $p$ ' to assert that  $p$  is false, and things are as we assert them to be, then  $p$  is true and not false: 'a proposition is then true when it is as we assert in this proposition; and accordingly if by " $q$ " we mean "not- $q$ ", and it is as we mean to assert, then in the new interpretation " $q$ " is actually true and *not* false' (*NL* p. 97). Thus, we have no idea of truth or falsity that is independent of the idea of the correctness or incorrectness of what we assert by means of a proposition with sense. Propositions have sense, and their sense is such that the proposition is true if things are as we assert them to be in

asserting it, and false otherwise. The notions of the truth or falsity get no grip independently of the sense of a proposition, i.e. independently of the true-false poles of what I express by means of a propositional sign.<sup>11</sup>

Once again, Wittgenstein connects the point with a point about negation. Earlier we saw him argue that if we treat propositions as names and the negation sign as a genuine function, then we cannot make perspicuous the essential connection between truth and falsity and the sense of a proposition with true-false poles. He now makes the same point from a different direction. Thus, Wittgenstein's thought experiment is an attempt to get us to see that what is essential to a proposition is its sense, and that sense is determined by the circumstances under which we call it true and the circumstances under which we call it false. The sense of a proposition is essentially connected with its having true-false poles. However, what we now see is that what is essential here is the opposition between the circumstances under which we call it true and those under which we call it false, and not how this opposition is symbolized. We are brought to recognize this when we see that what we now symbolize by  $\sim p$  could equally well be symbolized by  $p$ . By the same stroke, Wittgenstein believes, we recognize that the negation sign cannot be a sign for a genuine function: it is not an essential part of the sense of what is expressed by the symbol ' $\sim p$ '. What is essential is that  $\sim p$  is opposed to  $p$ , i.e. that it is true in exactly those circumstances in which  $p$  is not true; there is nothing over and above this opposition expressed by the symbols  $p$  and  $\sim p$ . What this shows is 'that neither to the symbol "not" nor to the manner of its combination with ' $q$ ' does a characteristic of the denotation of " $q$ " correspond' (*NL* p. 97-8; cf. *TLP* 4.0621). It is, in other words, the same constituents that make both  $p$  and  $\sim p$  true or false;  $\sim p$  does not have more constituents (i.e. more content) than  $p$  as it occurs in isolation.

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11. Wittgenstein makes the same point, in *NL* p. 99 and *TLP* 4.063, by means of the analogy between positive and negative facts and black and white points on a piece of paper. He argues that the analogy breaks down insofar as we can point to a black or white point independently understanding the concepts of black and white, but if we have not determined the sense of a proposition, there is nothing that is true or false, nothing that possesses the properties of truth or falsity. The notions of truth and falsity are essentially connected with our having determined the sense of a proposition.

## 5. The content of molecular propositions

The general theme of Wittgenstein's objections to both Russell's theory of judgement and Frege's treatment of negation and of truth and falsity is that the sense – i.e. the essential bi-polarity – of a proposition precludes the assimilation of propositions to names. By the same stroke, we cannot treat propositions as relata in genuine relations or as arguments in genuine functions. The problem of how a proposition expresses its sense is thus seen to be inextricably linked to the problem of how one proposition occurs in another. This clearly has immediate implications for the treatment of the logical constants: the logical constants cannot be assimilated to genuine functions or relations; they do not make a substantive contribution to the sense of propositions in which they occur. We've already seen Wittgenstein object to Frege's treatment of negation on the grounds that it fails to make the relation between  $p$  and  $\sim p$  perspicuous. He argues on similar grounds that it fails to clarify the logical relation between  $p$ ,  $\sim \sim p$ ,  $\sim \sim \sim \sim p$ , and so on. If, as Frege and Russell hold, the negation sign is a genuine function that makes a substantive contribution to the proposition expressed by  $\sim p$ , then each of the propositions in the series  $p$ ,  $\sim \sim p$ ,  $\sim \sim \sim \sim p$ , etc. is distinct. Yet we recognize that if any one of them is true, they all are. How is this possible? How can we recognize that from the truth of  $p$ , the truth of an infinite number of propositions follows? Wittgenstein thinks it is much more plausible to hold that a correct account of the symbolism will make it clear that  $p$  and  $\sim \sim p$  and  $\sim \sim \sim \sim p$  are all the same symbol. This depends, however, on our making clear that the negation sign makes no contribution to the content of these propositions. Wittgenstein sums up the point as follows:

In *not-p*,  $p$  is exactly the same as if it stands alone; this point is absolutely fundamental. (NL p. 95)

That is to say,  $p$  and  $\sim p$  must be seen to have the same content:  $p$  does not occur in  $\sim p$  as an argument in a complex expression whose content includes constituents that are not constituents of  $p$ .

The point applies to the logical constants generally. The logical constants cannot 'be predicates or relations, because propositions, owing to sense, cannot have predicates or relations' (NL p. 99). Thus, Wittgenstein believes that what is manifest in the case of negation – namely, that it does not introduce



anything new – applies equally to all the logical constants. The content of a molecular proposition must, in general, be nothing over and above the content of its atomic constituents. Wittgenstein makes the point as follows:

Molecular propositions contain nothing beyond what is contained in their atoms; they add no material information above that contained in their atoms. (*NL* p. 98)

Russell and Frege's accounts of the logical constants fail this test. Given that  $\sim$ ,  $\&$ ,  $\vee$ ,  $>$  are held to be genuine functions or relations, Wittgenstein believes that the logical relations which belong to the essence of a proposition are inevitably obscured. If we assimilate propositions to names and hold that the logical constants make a substantive contribution to the sense of molecular propositions, then it is not made perspicuous that  $p$  and  $\sim p$  have the same content but opposite senses, or that  $p$  and  $\sim \sim p$ , or  $p > q$  and  $\sim(p \& \sim q)$ , are the same proposition. Wittgenstein believes that it is only an understanding that starts from the sense of a proposition – i.e. from its essential bi-polarity – that will escape the confusion that Russell and Frege's accounts create. In order to understand the nature of a proposition, we must clarify the essential distinction between propositions and names; and in order to do that we must show that the logical constants are not genuine functions or relations; and in order to do that we must show that the content of a molecular proposition is nothing over and above the content of its atoms. Understanding how a proposition expresses its sense cannot be separated from the problem of seeing how a molecular proposition is built from its constituent propositions, without itself introducing anything new. This is the fundamental problem – the 'single great problem' – that Wittgenstein believes is posed by the deficiencies in Frege and Russell's accounts of judgement, truth and falsity and negation.

## 6. Shared preconceptions

The preconceptions that frame Wittgenstein's early philosophy are, as I remarked earlier, ones that he shares, at least to some extent, with Frege and Russell. In particular, the three philosophers are united in their commitment to the idea that logic is the essential framework of all thought insofar as it aims at the truth; logic is concerned with the universal principles of reasoning, or with the principles of judgement as such. It is within this frame-

work that Frege and Russell develop what is known as their universalist conception of logic, i.e. the idea that logic is a system of maximally general truths. For both Russell and Frege, the objectivity of truth requires that the laws that necessarily govern all thought that aims at truth are themselves grounded in objectivity. Given that the truth of a thought is completely independent of our recognition of it, the laws by which one assertion is derivable from another must constitute objective laws of truth.<sup>12</sup> Thus, logic is conceived as a system of objective, completely general truths that ground our practice of inference. Although Wittgenstein by and large shares the general conception of logic as the essence of all thought, he sees the idea of logic as a system of maximally general truths that prescribe how we must think and which justify the inference from one proposition to another as deeply problematic. The idea is, he believes, in conflict with the framework intuition – that logic is the essence of thought – that it is intended to ground.

Frege and Russell's universalist conception of logic forms the framework within which their detailed understanding of the nature of the propositions in which the laws of logic are expressed is worked out. The symbols used to express these completely general laws constitute the indefinables of logic. They are of two kinds: variables and logical constants. Thus, Frege under-

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12. Thus, Frege writes:

If being true ... is independent of being recognized as true by anyone, then the laws of thought are not psychological laws, but boundary stones set in an eternal foundation, which our thoughts can overflow but not dislodge. And because of this they are authoritative for our thought if it wants to attain truth. (G. Frege (1967): *The Basic Laws of Arithmetic*, trans. M. Furth, (Berkeley and Los Angeles: University of California Press), p. xvi)

Russell makes the same point as follows:

The name 'laws of thought' is ... misleading, for what is important is not the fact that we think in accordance with these laws, but the fact that things behave in accordance with them; in other words, the fact that when we think in accordance with them we think *truly*. (Russell, 1912, pp. 40–41)

stands a statement of a logical law, such as  $(p \supset q) \supset (\sim q \supset \sim p)$ , as an implicitly quantified statement in which the propositional variables are bound by universal quantifiers:  $(Ap)(Aq)((p \supset q) \supset (\sim q \supset \sim p))$ . The domain over which the variables range is the *Bedeutungen* of propositions, the truth-values, the True and the False. In the case of laws that generalize in name and predicate positions, such as  $(Ax)(Ay)(AF)((x=y) \supset (Fx \supset Fy))$ , the quantified variables range over the *Bedeutungen* of names and predicates, that is, over individuals and concepts. This view of the propositions of logic is, in essence, shared by Russell. For Russell, the primary indefinables of logic are the logical constants, conceived as predicates and relations, and a single variable ranging over everything. The domain to which the laws of logic apply include propositions, concepts and relations. These abstract entities are thought of as objective existents: the meanings of sentences, predicates and relational expressions. The laws that hold for these entities govern everything that can be thought or characterized as true. Frege and Russell are led by their overall view of logic to present the system of logical laws as an axiomatic system. The axioms are not a matter for stipulation, but are held to be primitive truths of logic. Aside from the logical primitives and the axioms, the system also requires rules of inference. Both Frege and Russell make use of two rules: modus ponens and a principle of substitution. These rules are used to derive further logical laws from the axioms and to derive particular instantiations of the laws. A proposition containing non-logical constants is an instance of a logical truth if it is a substitution instance of a basic or derived law. A particular inference from one concrete proposition to another is logically justified if it is made according to the mode of inference recognized as purely logical (modus ponens), from premises that are either empirical truths or substitution instances of a logical law. In this way, our inferential practice is seen to be grounded in the laws of logic.

It is clear from this brief outline that there is a close connection between Frege and Russell's conception of logic and the ideas discussed in the previous sections. The universalist conception of logic is essentially dependent on treating predicates, relational expressions and sentences as expressions with *Bedeutung*, and on treating the logical constants as functions and relations, of which the terms are the *Bedeutungen* of sentences. Thus, it is already clear that Frege and Russell's conception of the logical indefinables, and their conception of logical laws as maximally general truths, depend upon ideas

that Wittgenstein sees as confusions arising from their failure to make the nature of a proposition perspicuous. The concerns that Wittgenstein expresses in relation to Frege and Russell's conception of logic may therefore be seen as a further exploration of what he sees as the confusions that arise from a failure to understand the nature of a proposition.

The problems that Wittgenstein raises for Frege and Russell's view of logic are, therefore, a repetition, at least in part, of his objections to treating the logical constants as predicates and relations and to treating propositions as *relata*, or more generally to treating propositions on the model of names. The problems that arise for the universalist conception of logic are thus to be seen as just another aspect of the single great problem that he believes himself to confront. It now becomes clear that the two sets of problems – the problem of how a proposition expresses its sense and the problem of the status of the propositions of logic – are linked, that they are aspects of a single great problem. The fundamental problem is the need to make perspicuous how a proposition expresses its sense. This in turn depends upon our making clear the distinction between propositions and names and on our making perspicuous how a proposition with sense occurs in another proposition. It depends, in particular, on our not treating propositions as *relata* or the logical constants as predicates and relations. Insofar as Frege and Russell's universalist conception of logic presupposes these ideas, it depends upon our rejecting their conception of logic as a system of maximally general truths.

## **7. The propositions of logic**

The problem of making the nature and status of the propositions of logic perspicuous is the essential heart of Wittgenstein's fundamental task of clarifying the nature of a proposition. The worries that he raises for the universalist conception of logic concern its failure to make manifest the unique status of the propositions of logic. Let's begin by looking at the objection he raises to the central idea of the universalist conception, namely, that the laws of logic are maximally general truths, i.e. universally quantified statements expressing universal truths. This idea is essential to the conception of logic as a science of objective laws of truth. Wittgenstein's criticisms of the latter idea focuses, therefore, on the question whether the propositions of logic are general propositions, i.e. on whether the generality sign is fundamental to logic.

In the final remark in the notebook's entry for 13.10.14, Wittgenstein writes:

But let us remember that it is the *variables* and *not* the sign of generality that are characteristic of logic. (NB p. 11)

His first reflection on the following day runs as follows:

For is there such a thing as a science of completely generalized propositions? This sounds extremely improbable. (NB p. 11)

One of the main themes of Wittgenstein's reflections on the propositions of logic in the *Notebooks* is the attempt to make clear the distinction between the propositions of logic and fully generalized, material propositions in which all the constants have been replaced by variables. Clarification of this distinction is fundamental to Wittgenstein's overall aim to make it clear that the sort of generality that belongs to the propositions of logic is not merely an accidental generality.

One of Wittgenstein's objections to the view that the propositions of logic are maximally general truths is that he believes that this obscures the fact that the particular instances of a logical proposition are clearly senseless, i.e. they clearly say nothing about the world. Thus:

A function is like a line dividing points of a plane into right and left ones; then "p or not-p" has no meaning because it does not divide the plane.

But though a particular proposition "p or not-p" has no meaning, a general proposition "for all p's, p or not-p" has a meaning because this does not contain the nonsensical function "p or not-p" but the function "p or not-q" just as "for all x's xRx" contains the function "xRy". (NL p. 94-5)

This passage is written at a time when Wittgenstein still shares Russell's view that the propositions of logic are universally quantified statements. However, unlike Russell, he combines this view with an overall rejection of the idea that the propositions of logic are maximally general truths, equivalent to the general laws of the special sciences. Thus, on Wittgenstein's view, the fully generalized proposition  $(p)(p \vee \sim p)$  is to be understood as a generalization of a senseless tautology of the form  $p \vee \sim p$ . A particular instance of a proposition of the form  $p \vee \sim p$  is senseless: 'If I know that this rose is either red or

not red, I know nothing' (NL, 1961 edition, p. 100). A particular molecular proposition of the form  $p \vee \sim p$  is constructed from its elements in such a way that the resulting proposition clearly lacks sense, i.e. true-false poles. Thus, Wittgenstein believes that we must be careful to distinguish the general propositions of logic from generalizations of material propositions. On his view, construing  $(p)(p \vee \sim p)$  as a general truth about logical objects obscures the distinction. What characterizes the general propositions of logic is that they are all generalizations of tautologies. The generalized proposition, Wittgenstein argues, is not itself senseless, insofar as it simply employs a single variable in two argument places, and is thus analogous to  $(x)xRx$ , in which the same variable occupies both places in the function  $xRy$ . The whole quantified statement is, therefore a proposition with sense, even though the propositions of which it is a generalization are senseless. As we'll see, he becomes dissatisfied with this account of the propositions of logic.

Wittgenstein's rejection of the idea that the propositions of logic are universally quantified propositions with sense begins with the following reflections. If the propositions of logic are propositions with sense, then their sense does not depend upon the conventional meaning of any sign. These are propositions that express a sense by means of their logical properties alone, and they can therefore be recognized as true a priori. For Wittgenstein these characteristics of general logical propositions now begin to point in a different direction: to their not being propositions with sense at all:

*This is clear.* If there are completely generalized *propositions*, then their sense does not depend on any arbitrary formation of signs! In that case, however, such a connexion of signs can represent the world only by means of its own logical properties, i.e. it can not be false, and not be true. So there are no completely generalized *propositions*. (NB p. 12)

Something that expresses a sense by means of its own logical properties, and whose truth can be recognized on the basis of the symbol alone, cannot, Wittgenstein now believes, be properly thought of as expressing a sense at all, i.e. it cannot, properly speaking, be called a proposition.

Another worry that Wittgenstein raises for the idea that the propositions of logic express objective, maximally general truths concerns what he sees as its inevitable reliance on a notion of self-evidence. Although this notion is understood and employed somewhat differently by Frege and Russell,<sup>13</sup>

Wittgenstein's remarks suggest that he takes any appeal to a concept of self-evidence to be unsatisfactory. Wittgenstein's dissatisfaction with the idea that the basic laws of logic are self-evident truths is expressed in the opening remarks of the *Notebooks*: 'Logic must take care of itself' (*NB* p. 2). If logic is, as the framework assumption has it, universal and a priori, then if we express judgements that are true or false, the whole of logic is already in place. For Wittgenstein, this shows that logic cannot itself be something for which the question of truth arises. We cannot have to worry about logic. Yet an appeal to self-evidence suggests that we could worry about logic. It is only, Wittgenstein believes, if we can dispense with the notion of self-evidence completely that problems arising from the fallibility of human certainty will evaporate. For Wittgenstein this means coming to recognize that the question of truth does not arise for the propositions of logic: 'It must in a certain sense be impossible of us to go wrong in logic' (*NB* p. 2). That is, it depends upon our rejecting the universalist conception of Frege and Russell that treats logic as a system of truths; the universalist conception of logical propositions, Wittgenstein believes, betrays the framework intuition that it was intended to ground.

Finally, the universalist conception holds that the laws of logic are distinguished from the laws of the special sciences only by their absolute generality. Wittgenstein sees this idea as in tension with the relation between the propositions of logic and a language in which it is possible to express thoughts about the world:

It is clear that we can form all the completely general propositions that are possible at all as soon as we are merely given a *language*. And that is why it is scarcely credible that such connexions of signs should really say anything about the world. (*NB* p. 12)

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13. Russell equates self-evidence with our recognizing a proposition as certain (see Russell, 1912, Chapter 11). He holds that the highest degree of self-evidence is 'an infallible guarantee of truth' (Russell, 1912, p. 68). Frege, by contrast, treats self-evidence as an objective property of basic logical laws: they are justified in themselves without need of logical proof. There is nothing in Frege's understanding of this concept that suggests that we are infallible in our capacity to recognize a proposition as self-evident. For a discussion of Frege's conception of self-evidence, see T. Burge (1998): 'Frege on Knowing the Foundation', *Mind*, vol. 107, no. 426, pp. 305–348.

According to the framework intuition, a language in which we can express propositions with sense – i.e. propositions with true-false poles – is necessarily a language which already possesses the logical order that is essential to all thought insofar as it aims at the truth. And with this logical order, the propositions of logic are already given: ‘If we know the logical syntax of any sign-language, then we have already been given all the propositions of logic’ (*TLP* 6.124). This in itself, he believes, is enough to make us suspicious of the idea that these propositions have the status of objective laws on a par with the laws of physics. Yet Wittgenstein recognizes that it is also the case that logic is essentially applied in propositions with sense: ‘Logic is interested only in reality’ (*NB* p. 9). The problem is to understand how logic can be both a priori and essentially embedded in a language that is used to say what is the case: ‘this gradual transition from the elementary proposition to the completely general one’ (*NB* p. 12). The trouble with the universalist conception, Wittgenstein believes, is that by trying to account for the applicability of logic in terms of its objective truth, it fails to make perspicuous the a priori status of the propositions of logic, i.e. how it is that the whole of logic is already given with language in which we express thoughts about the world.

## 8. ‘Quite general propositions’

The above reflections prompt Wittgenstein to raise a number of questions: What is the relation between elementary propositions and the completely general propositions of logic? How is the transition from one to the other made? What is the nature of the transition? A material proposition of the form  $aRb$  represents a particular situation because of the arbitrary correlation of the names that occur in it with particular things (for these purposes ‘ $R$ ’ counts as a name). The completely general propositions of logic are propositions in which all the constants except the logical constants have been replaced by variables. Is it correct to think of this process as a process of generalization? Wittgenstein begins to look more closely at the contrast between the propositions of logic and generalized material propositions. Making the contrast more perspicuous shows, he believes, that we cannot see logical propositions as arrived at through a process of generalization from elementary propositions. He begins by making the following reflection concerning the propositions of logic:



In the proposition we – so to speak – arrange things *experimentally*, as they do *not* have to be in reality; but we cannot make any *unlogical* arrangement, for in order to do that we should have to be able to get outside logic *in* language. – But if the quite general proposition contains *only* “logical constants”, then it cannot be anything more to us than – simply – a logical structure, and cannot do anything more than shew us its own logical properties. – If there are quite general propositions – *what* do we arrange experimentally in them? (NB p. 13)

If we take the class of ‘quite general propositions’ to constitute the class of logical propositions, then Wittgenstein believes that it is clear that in these propositions representational relations to the world have been cut to the point where ‘finally the completely general proposition is quite isolated’ (NB p. 13). If these propositions are held to arrange things experimentally, then we should have to say that ‘such propositions were experimental combinations of “logical constants”.(!)’ (NB p. 13). The exclamation mark shows that Wittgenstein thinks that this idea is absurd. We must recognize that these propositions no longer arrange anything ‘*experimentally*, as they do *not* have to be in reality’. These propositions no longer represent a situation, but rather they put the logical structure of propositions on show. These propositions have dematerialized, and we can see this from the fact that  $p \vee \sim p$  follows from all propositions.

Wittgenstein now observes that there is another class of completely general propositions the members of which are not logical propositions, but genuine material propositions that describe the world either correctly or incorrectly. Thus, we can see not only that the propositions of logic are not completely general *propositions*, but that there are completely general propositions and that they are not propositions of logic. Thus, Wittgenstein notes that it is possible to give a completely general description of the world, i.e. a description that contains only variables and logical constants:

Yes, the world could be completely described by completely general propositions, and hence without using any sort of names or other denoting signs. And in order to arrive at ordinary language one would only need to introduce names, etc. by saying, after an “ $(\exists x)$ ”, “and this  $x$  is  $A$ ” and so on.

Thus it is possible to devise a picture of the world without saying what is a representation of what. (NB p. 14; cf. *TLP* 5.526)

Wittgenstein gives the following example of such a description:

Let us suppose, e.g., that the world consisted of the things A and B and the property F, and that F(A) were the case and not F(B). This world could also be described by means of the following propositions:

$$(\exists x, y).(\exists \phi).x \neq y. \phi x. \sim \phi y: \phi u. \phi z. \supset_{u, z} .u = z$$

$$(\exists \phi).(\psi). \psi = \phi$$

$$(\exists x, y).(z).z = xvz = y$$

He concludes:

From all this, of course, it follows that *there are completely general propositions!* (NB p. 14)

It is also clear, of course, that these propositions are not propositions of logic. They might be characterized as ‘maximally general truths’, in the sense that they do not assert anything about any particular thing, but this does not give them the status of logical propositions. They are not a priori and their generality is an ‘accidental generality. It deals with all the things that there chance to be. And that is why it is a material proposition’ (NB p. 17). A completely generalized proposition that is arrived at through a process of generalization has not cut its representational links to reality:

The possibility of inferring completely general propositions from material propositions – the fact that the former are capable of standing in *meaningful* internal relations with the latter – shews that the completely general propositions are logical constructions from situations. (NB p. 16)

Whether I assert something of a particular thing or of all the things that there are, the assertion is equally material. (NB p. 17)

There is, therefore, a logical distinction between what may properly be called completely general *propositions* and the dematerialized propositions of logic. Wittgenstein believes that this shows that the process by which we

arrive at the latter cannot be one of generalization, as he previously thought. The dematerialization that characterizes the propositions of logic has not yet been made perspicuous:

If the completely generalized proposition is not completely dematerialized, then a proposition does not get dematerialized at all through generalization, as I used to think. (NB p. 17)

Completely generalized propositions are, therefore, still propositions with sense. They do not tell us which elementary propositions are true and which are false, but they impose an empirical limit on what the range or pattern of truth and falsity across the totality of propositions can be. Thus, in the example Wittgenstein gives in the *Notebooks*, the first of the general propositions does not tell us what property  $\phi$  is, or which object has the property and which lacks it, but it does tell us that there are two objects and there is a property such that one object has it and the other lacks it. Wittgenstein makes the point as follows:

What the completely general propositions describe are indeed in a certain sense structural properties of the world. Nevertheless these propositions can still be true or false. According as they *make sense* the world still has that permanent range.

In the end the truth or falsehood of *every* proposition makes some difference to the general *structure* of the world. And the range which is left to its structure by the TOTALITY of all elementary propositions is just the one that is bounded by the completely general propositions. (NB p. 20; cf. TLP 5.5262)

The next day, Wittgenstein makes an implicit contrast with the limit set by logic:

In order for a proposition to be true it must first and foremost be *capable* of truth, and that is all that concerns logic. (NB p. 20)

Logic is not concerned with what is true, or with limiting the range left open to the world, but with what is essential before any proposition can be compared with reality for truth or falsity, i.e. with what is essential to representation as such. What this shows, Wittgenstein believes, is that '[t]he logic of the world is prior to all truth and falsehood' (NB p. 14). The problem is

to make perspicuous the difference in the relation that holds between completely general material propositions and elementary propositions, on the one hand, and between elementary propositions and the propositions of logic, on the other. Both the universalist conception of logic, and Wittgenstein's earlier conception of the propositions of logic as generalizations of tautologies, which can be understood to express a sense, fail to make the difference clear. They fail, that is, in the task that Wittgenstein sets himself in the opening paragraph of 'Notes on Logic': '[to give] the logical propositions ... a unique position as against all other propositions'.

Implicit in Frege and Russell's conception of their logical systems is the idea that they begin by identifying the basic indefinables and the basic, unprovable laws on the basis of which the whole of logic (including arithmetic) can be constructed. Wittgenstein shares Frege and Russell's conception of logic as an a priori limit of thought. However, he believes that their universalist conception of logical truths fails to make the unique, a priori status of logic perspicuous. Logic is given as soon as a language in which we express judgements about the world is given; it is, in some sense, already complete when we have a language that we use to say how things are. Frege and Russell's treatment of logic as a body of doctrine, Wittgenstein believes, fails to make clear that by acquiring a language in which we express thoughts that are true or false, we have already grasped the whole of logic. Thus, '(All logical constants are already contained in the elementary proposition.)' (NB p. 27); 'It is clear that whatever we can say *in advance* about the form of all propositions, we must be able to say *all at once*' (TLP 5.47); '[T]here can *never* be surprises in logic' (TLP 6.1251).

For Frege and Russell the propositions of logic are a priori in the sense that the propositions of logic constitute all the propositions that can be derived as theorems from the axioms of their system via the rules of inference. However, given Wittgenstein's view of the a priori status of logic, the implied distinction between primitive and derived logical truths is illusory. All of logic is given with language and the notion of derivation or proof that Frege and Russell treat as fundamental to logic is, for Wittgenstein, inessential to it. Frege and Russell, he believes, wrongly assimilate proof in logic to proof of one proposition with sense from other propositions with sense that have been accepted as true. As he says in the *Tractatus*: '[I]t would be altogether too remarkable if a proposition that had sense could be proved *logi-*

cally from others, and *so too* could a logical proposition. It is clear from the start that a logical proof of a proposition that has sense and a proof *in* logic must be two entirely different things' (*TLP* 6.1263). One of the aims of Wittgenstein's task of clarification is to make clear this distinction between a so-called proof in logic and the proof of a proposition with sense. The trouble with Frege and Russell's conception of logic as objective, maximally general truths, and the idea of primitive and derived laws that goes with it, is that it does not make this distinction between a proof in logic and a logical proof perspicuous.

## 9. Inference

The final objection I want to look at concerns Wittgenstein's criticisms of Frege and Russell's conception of the relation between our inferential practice and what Wittgenstein calls their 'laws of deduction' (*NL* p. 100; *TLP* 5.132). Both Frege and Russell regard our practice of deriving a concrete conclusion from concrete premises as grounded in the laws of logic, conceived as objective, maximally general truths. The movement from premises to conclusion is taken to be justified insofar as it is made according to the mode of inference recognized as purely logical from premises which have either been recognized as true or which are substitution instances of an objective logical law. Take, for example, the following inference:

- (1) All whales are mammals
- (2) All mammals are vertebrates
- (3) Therefore, all whales are vertebrates

On Frege and Russell's view, this inference is justified insofar as its conclusion can be derived by logical rules of inference from logical laws and judgments that have already been asserted to be true. To make clear that this is so, the inference can be re-written in canonical form as follows:

- (1')  $((Ax)(x \text{ is a whale} \supset x \text{ is a mammal}) \& (Ax)(x \text{ is a mammal} \supset x \text{ is a vertebrate})) \supset (Ax)(x \text{ is a whale} \supset x \text{ is a vertebrate})$  [Substitution instance of the logical law  $((Ax)(Fx \supset Gx) \& (Ax)(Gx \supset Hx)) \supset (Ax)(Fx \supset Hx)$ ]
- (2')  $(Ax)(x \text{ is a whale} \supset x \text{ is a mammal}) \& (Ax)(x \text{ is a mammal} \supset x \text{ is a vertebrate})$  [Premises (1) and (2)]
- (3') Therefore,  $(Ax)(x \text{ is a whale} \supset x \text{ is a vertebrate})$  [Modus ponens, (1'), (2')]

The proof of (3) on the basis of (1) and (2) can now be seen to be constructed in accordance with the laws of logic. It is this, according to Frege and Russell, that grounds the fact that (3) can be justified on the basis of (1) and (2). Thus, according to Frege: ‘The task of logic is to set up laws according to which a judgement is justified by others, irrespective of whether these are themselves true’.<sup>14</sup> Russell makes the same point as follows:

It is noteworthy that, in all actual valid deduction, whether or not the material is of a purely logical nature, the relation of premises to conclusion, in virtue of which we make the deduction, is one of those contemplated by the laws of logic or deducible from them.<sup>15</sup>

Wittgenstein’s objection to the idea that the validity of an inference, such as that represented in (1)–(3), is grounded in ‘laws of inference’ is first expressed in ‘Notes on Logic’ as follows:

Logical inferences can, it is true, be made in accordance with Frege’s or Russell’s laws of deduction, but this cannot justify the inference; and therefore they are not primitive propositions of logic. If  $p$  follows from  $q$ , it can also be inferred from  $q$ , and the “manner of deduction” is indifferent. (NL p. 100)

We can, of course, re-write the proof given in (1)–(3) in the form (1’)–(3’). However, Wittgenstein argues, it is not because of this that the inference from (1) and (2) to (3) is justified. The inference from (1) and (2) to (3) is justified, he suggests, by the relation that the propositions expressed bear to one another, and does not depend on anything outside that. The inference from (1’) and (2’) to (3’) is just another way of deducing the conclusion of the argument represented in (1)–(3) from its premises; it is not a justification of it. This shows, Wittgenstein believes, that Russell misrepresents the status of his laws of inference. Russell takes his ‘laws of inference’ to be maximally

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14. G. Frege (1979): *Posthumous Writings*, (Oxford: Basil Blackwell), p. 175.

15. B. Russell (1905): ‘Necessity and Possibility’, in *Collected Papers of Bertrand Russell*, vol. 4, A. Urquhart, ed., (London: Routledge), p. 273; quoted in I. Proops (2002): ‘The *Tractatus* on Inference and Entailment’, in E.H. Reck (2002, ed.): pp. 283–307.

general truths that characterize the relation of one proposition to another; deductions are valid insofar as they are covered by these general laws; the general laws are the primitive propositions of logic on which all actual valid deductions depend. Given, however, that the inference from (1) and (2) to (3) is justified by the relation that these propositions bear to one another, this conception of the laws of inference must be mistaken: the ‘law of inference’ plays no essential role in justifying the transition from (1) and (2) to (3). Including a substitution instance of the relevant logical law as a premise in the argument adds absolutely nothing to our deduction of (3) from (1) and (2).<sup>16</sup>

Wittgenstein spells these objections out in the *Tractatus* as follows:

If the truth of one proposition follows from the truth of others, this finds expression in relations in which the forms of the proposition stand to one another: nor is it necessary for us to set up these relations between them, by combining them with one another in a single proposition; on the contrary, the relations are internal, and their existence is an immediate result of the existence of the propositions. (*TLP* 5.131)

The problem, for Wittgenstein, is to make the relation between propositions perspicuous in such a way that what justifies the inference from one proposition to another can be gathered from the propositions themselves. The problem with the argument represented by (1)–(3) is that our mode of signifying does not make the relation between the propositions clear; what we need is a mode of signifying that makes the inner connection between the propositions obvious. Once the relation between the propositions is clarified or made perspicuous, we will no longer be tempted to look outside the propositions themselves – to ‘laws of inference’ – as a means to ground the transition from one proposition to another. It must be made clear that the propositions themselves ‘are the only possible justification of the inference’ (*TLP* 5.132). Wittgenstein sums up his objection to Frege and Russell as follows:

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16. There is no suggestion here that Wittgenstein is accusing either Frege or Russell of making the mistake of including inference rules among the premises of an argument. The view that he is criticizing is that there are maximally general truths that characterize the relation of one proposition to another and which license all valid implications.

‘Laws of inference’, which are supposed to justify inferences, as in the works of Frege and Russell, have no sense, and would be superfluous. (TLP 5.132)

They have no sense insofar as they are combinations of signs in which the representational relation to reality has been cut; they are superfluous insofar as it is the internal relation of the propositions occurring in a deduction of one concrete proposition from another that justifies the deduction.

We can now see that Wittgenstein’s objection to Frege and Russell’s conception of the relation between the laws of logic and actual inferences is, at bottom, a repetition of his fundamental objection to the universalist conception of logic. This objection is, in turn, a repetition of his objection to treating propositions as *relata*, and more generally, to treating propositional expressions on the model of names: ‘propositions, owing to sense, cannot have predicates or relations’ (NL p. 99), i.e. propositions cannot occur as arguments. There are no indefinable logical relations whose interconnections are expressed in substantial laws of the form  $(Ap)(Aq)(p \& q) \supset p$ . The inference from ‘Socrates is bald and Socrates is snub-nosed’ to ‘Socrates is snub-nosed’ does not go via, or in any way depend upon, a law that connects propositions of the form  $p \& q$  with propositions of the form  $p$ . To suppose that it does is, first of all, to treat the logical constants as indefinables, i.e. as substantive expressions equivalent to functions and relations. Secondly, it is to treat the so-called laws of logic as maximally general truths, whose domain is constituted by the values of the variables that yield substitution instances of the law, i.e. by the *Bedeutungen* of sentences. And to suppose all this is, once again, to fail to see clearly the nature of a proposition, or to recognize how a proposition expresses its sense. It is by making clear how a proposition expresses its sense, and thus how one proposition occurs in another, that we will be able to see both the relation between propositions with sense and the so-called propositions of logic, and the relation between two propositions with sense that justifies our inferring one from the other. Thus, all the problems that we’ve looked at in the end bring Wittgenstein back to his one fundamental problem: What is the nature of the proposition? Or: How does a proposition express its sense? The problem of understanding the nature and status of the propositions of logic, or the nature of inference, are just aspects of this single great problem.



Thus, Wittgenstein's conception of the aims of the central task of clarification in the *Tractatus* emerges out of his articulation of what he believes to be the fundamental problems in the work of Frege and Russell. Wittgenstein's critical engagement with this work occurs against a background of a shared commitment to a conception of logic as the essential framework to the employment of language to express judgements about the world, that is, of logic as the essence of all thought insofar as it aims at the truth. For Wittgenstein, the idea that logic is the essential framework to all thought already commits us to the idea that there is a perfect logical order in the propositions of ordinary language: where there is sense (propositions with true-false poles), there is logic; and where there is logic, there must be perfect logical order. These ideas do not, for Wittgenstein, have the status of theoretical claims, that is to say, he does not put them forward as hypotheses that explain how our language works. They rather have the status of preconceptions of how language must be, which colour Wittgenstein's idea of his fundamental task and determine how he undertakes the work of clarification that he believes it calls for.

Within the context of Wittgenstein's idealized picture of a proposition, the problem he takes himself to confront divides into the following aspects, although one aspect will be clarified only if they all are. He must make perspicuous the universal and a priori status of logic. He must show how logic takes care of itself, how language itself prevents any logical mistake. For Wittgenstein, this means making it clear that the question of truth does not arise for the logic of our language. Thus, he must clarify the distinction between propositions with sense and the propositions of logic, and show that we have all the propositions of logic as soon as we have a language in which we express thoughts about the world. He must make clear that a molecular proposition has no content over and above the content of its atoms, that the logical constants are not genuine functions and make no contribution to the sense of the propositions in which they occur. He must make clear that there is no need to ground the transition from one proposition to another in general 'laws of inference', that the inference from one proposition to another is justified by the internal relation between the propositions themselves. He must make clear the distinction between a proof in logic and the proof of one proposition with sense from others that are accepted as true. He must make clear how a proposition expresses its sense

(i.e. has true-false poles) and he must make perspicuous the nature of the connection between propositions with sense and the propositions of logic. And finally, he must make clear the logical distinction, and the logical relation, between names and propositions, on the one hand, and names and relational expressions, on the other. This is how the problem of the nature of the proposition presents itself to Wittgenstein when he undertakes his task of clarification. He is convinced that the clarification is to be achieved by means of a logical investigation of language itself: 'The way in which language signifies is mirrored in its use' (*NB* p. 82). However, what he does not see is that both the way the problem has presented itself and his conception of the object to which the work of clarification is addressed are completely determined by his own preconceptions concerning logic and a proposition.<sup>17</sup>

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