In one of his final manuscripts, Wittgenstein notes somewhat abruptly:

The question is: what is the logician to say here? (MS 174, 15v[2], trans. in OC, §68)

Logic played an important role in Wittgenstein’s work over the entire period of his philosophizing, from both the point of view of the philosopher of logic and that of the logician. Besides logical analysis, there is another kind of logical activity that characterizes Wittgenstein’s philosophical work after a certain point during his experience as a soldier and, later, as an officer in the First World War – if not earlier. This other kind of logical activity has to do with what appears to be the literary form of Wittgenstein’s philosophical prose, and it is likely to be seen as the most modernist feature of his preoccupation with logic.

1 ‘Logic’ and ‘grammar’

The following early remark, from the Tractatus (1922), gives expression to one of Wittgenstein’s most fundamental convictions concerning the relation between logic and philosophy:

The object of philosophy is the logical clarification of thoughts. Philosophy is not a body of doctrine, but an activity.
A philosophical work consists essentially of elucidations.
Philosophy does not result in ‘philosophical propositions’, but in the becoming-clear [Klarwerden] of propositions. (TLP, §4.1121)

For example, I might be inclined to say that ‘systems of formal logic describe the logic of language’. According to Wittgenstein’s conception of philosophy, it would be wrong to think that uttering such a sentence, as such, would be the

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1 Translations of the Tractatus are taken from the Pears/McGuinness translation or the Ogden/Ramsey one or both, without further indication. Translations have been emended where necessary, also without further indication. The same applies to the Bartlett translation of Frege’s ‘Über die wissenschaftliche Berechtigung einer Begriffsschrift’.
result of philosophy (as it were, *philosophical propositions*). Rather, according to this conception, my utterance of this sentence marks the beginning of the real philosophical work that is needed. For what we, as philosophers, have to do now is to make clear – to ourselves as much as to whoever might care to find out – what exactly might be meant by the utterance of this sentence. This *activity* is what Wittgenstein calls the *logical clarification of thoughts*.

Wittgenstein mainly uses the term ‘logic’ in two common ways: namely, either to speak about a system of formal logic such as Aristotle’s logic, Frege’s concept-script or Russell’s *Principia Mathematica* (i.e. the method of investigation), or to speak of how language in general, one language in particular or specific expressions, propositions, words, concepts, etc. function (i.e. the object of investigation).

Many important issues in the philosophy of logic can be framed with regard to possible, or perhaps merely supposed, relations between logic as the method of investigation and logic as the object of investigation. In what sense are systems of formal logic *about* the logic of language? Is there only one correct system of formal logic or are there many? Here is a relatively late remark, from 1948, in which Wittgenstein discusses a related kind of issue:

Aristotelian logic brands a contradiction as a non-sentence, which is to be excluded from language. But this logic only deals with a very small part of the logic of our language.

(It is as if the first geometrical system had been a trigonometry; and as if we now believed that trigonometry is the real basis for geometry, if not the whole of geometry.) (MS 137, 129–129v, trans. in LW I, §525)

According to Wittgenstein, there exists a general tendency to reify systems of logic or, what comes to the same, ‘to sublimate the logic of our language’, as he puts it in section 38 of *Philosophical Investigations* (cf. §§89, 94). In other words, what is at issue in the above passage is a tendency to misunderstand the normative character of formal logic in such a way, for instance, as to try to eliminate features of our ordinary language that do not accord with the rules of some system of formal logic – even though these features of our ordinary language might in fact fulfil genuine functions, which merely cannot be captured adequately by this particular set of rules. Against such reifying and sublimating attitudes, Wittgenstein reminds us that sometimes expressions such as ‘Yes and no’ fulfil a vital communicative function *qua* being contradictory, for example, in replying to the question ‘Do you love me?’, or ‘Are you a Marxist?’

2 It should be noted that such a reminder carries no particular commitment to logical pluralism.
The following passage from the Preface of the *Tractatus* contains one of the most salient instances of one of the two main ways in which Wittgenstein uses the term ‘logic’:

The book deals with the problems of philosophy, and shows – as I believe – that the posing [*Fragestellung*] of these problems stems from misunderstanding the logic of our language. (TLP, Preface)

Wittgenstein thinks that there is a characteristic dimension to philosophy that is displayed in a powerful, and dangerous, tendency to talk nonsense without being aware of it.

In later writings, Wittgenstein speaks less frequently of the ‘logic’ of our language. Instead, he now often speaks of the grammar of our language. More frequently still, Wittgenstein now speaks of the ‘grammar’ of particular words and expressions. ³

The shift towards greater attention to the specific features of particular words and expressions in the later period corresponds to, among other things, Wittgenstein’s growing appreciation of just how difficult a task it is to describe the logic of language at all clearly, even in what appear to be the simplest cases. Throughout this transition, Wittgenstein remains committed to the same basic principle, however: if we want to understand the logic (or grammar) of language, we have to look at how language is actually used in life. He writes:

In philosophy the question, ‘What do we actually use this word, this sentence for?’ leads to valuable insights, time and time again. (TLP, §6.211)⁴

In the course of his steadily growing awareness of the difficulties one faces in trying to answer this kind of question and increasing focus on the contextualized particularity of individual cases of language use, the later Wittgenstein undertook a substantial elaboration of the methods of formal logic that he employed. In this connection it is also important to note how variously the later Wittgenstein

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³ In *Philosophical Investigations*, the only two instances of the ‘of our language’-variety of ‘logic’ occur in sections 38 and 93. The corresponding use of ‘grammar’ occurs in sections 29, 122, 295, 354, 371, 373, 497, 520 and 528, inter alia. However, see also e.g. MS 169, 72v, trans. in LW II, §44: ‘Bad influence of Aristotelian logic. The logic of language is immeasurably more complicated than it looks.’ For instances of ‘grammar’ of particular words and expressions, see e.g. PI, §§35 (‘to mean’, ‘imagine’), 150 (‘know’, ‘can’, ‘be able’, ‘understand’), 165 (‘a quite particular’), 182 (‘to fit’, ‘be able’, ‘understand’), 187 (‘know’, ‘to mean’), 199 (‘to follow a rule’), and also 257, 339, 492, 657, 660, 664 and 693. Cf. §345, for an equivalent use of ‘logic’. For more on grammar, see also Hutchinson and Read, this volume.

⁴ For a detailed discussion of the development of Wittgenstein’s attitude towards ‘ordinary language’, see Conant (manuscript), ‘Early and Later Wittgenstein on the Ordinary, on Language, and on Ordinary Language’.
uses the attribute ‘grammatical’ in characterizing his philosophical methods. He speaks of grammatical perspective, analysis, sentences, structure, remarks, etc. Finally, like ‘logic’, he also sometimes uses ‘grammar’ in the sense of a technique or discipline that he engages in (see e.g. PI, §496).

2 Devices to avoid misunderstanding

Frege had constructed his concept-script (Begriffsschrift) not as some kind of ideal that ordinary language would have to be brought in line with but as something in response to, as he writes, ‘the lack of a device to avoid misunderstanding in others as well as errors in one’s own thinking [that] makes itself so often felt in the more abstract scientific disciplines’. ‘May philosophers too, then, give some attention to the matter!’ he added (160 [56]). Wittgenstein certainly did.

The signs, strings of signs or structures of signs in formal logic, which we manipulate according to the rules of the system, are significantly different from the sentences, or propositions, of our ordinary language. One essential difference can be seen as follows. If one wanted to conceive of formal strings of signs as something like logical sentences that could be true or false, then on closer inspection one would find that these ‘sentences’ can fulfil their function equally well when construed in the form of tautologies – that is, when construed in such a way that they cannot be false. In the Tractatus, Wittgenstein writes:

6.12 If propositions are to yield a tautology when they are combined in a certain way, they must have certain structural properties. So their yielding a tautology when combined in this way shows that they possess these structural properties.

6.121 The sentences of logic demonstrate the logical properties of propositions by combining them so as to form sentences that say nothing.

The fact that so-called logical sentences can, apparently, not be false, has led many to think that ‘logical sentences’ must therefore be true, hence, that they are


6 In addition to the passages that I have quoted, see also TLP, §§4.461, 6.1–6.111 and 6.1221. Russell expressed his agreement with this point in a letter to Wittgenstein dated 13 August 1919. For an example of the practical significance of this point, see V. Halbach, The Logic Manual (Oxford: Oxford University Press, 2010), 43ff.
necessary truths. On the other hand, it might seem doubtful whether one should speak of logical ‘sentences’ at all. If logical sentences cannot be false, then can they be true? Perhaps it would be wiser to avoid this analogy between language and systems of formal logic. Wittgenstein continues:

It follows from this that we can actually do without logical sentences; for in a suitable notation we can in fact recognize the formal properties of propositions by mere inspection. (TLP, §6.122)

The passage ends with an example of such a notation: ‘In cases where no generality-sign occurs,’ Wittgenstein explains, ‘one can employ the following illustrative method.’ Namely, instead of writing \( \sim(p.\sim q) \) and its truth table, for instance, we can draw the following diagram:

Let us suppose that this diagram represents a correct truth-functional analysis of what someone meant when they uttered the following words: ‘It is not true that Wittgenstein threatened and Popper did not provoke.’

The diagram now lets us see that what the person meant to say would be true even if it were actually true that Wittgenstein threatened, provided that it were also true that Popper provoked. So, perhaps, what the person meant to say could have been expressed more clearly by saying ‘Wittgenstein might have threatened, but Popper definitely provoked.’

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8 The corresponding reading of the lines of the diagram starts from the bottom and sees the following connections: \( T - Tp - Tq \).
Alternatively, using PM-notation, we can say that the person who uttered these words did not mean something of the form \( \neg p \neg q \), for which their utterance could easily be mistaken. However, unlike PM-notation, the diagram illustrates the truth-functional structure of what was said without making use of anything that one might even be tempted to call logical ‘sentences’.

In one sense, Wittgenstein’s diagrammatic notation simply follows Frege’s guideline for (two-dimensional) logical notations. Frege writes:

[A well-constructed logical notation] will have to be entirely different from all word-languages in order to make full use of the specific advantages of visual signs. … Such brevity must thereby be striven for that the two-dimensionality of the writing surface can be well exploited for the perspicuity of the representation.

(Frege, On Scientific Justification, 53, 55)\(^9\)

Furthermore, the logician’s construction of suitable notations can itself be regarded as an act of philosophical clarification. As Wittgenstein writes ‘we have the right logical point of view once all is in order in our sign-language’ (TLP, §4.1213). After all, it is in virtue of the skill of the logician as a philosopher that the particular act of logical clarification can succeed without at the same time provoking a number of puzzling questions that would bring itself into question – for example, questions concerning the semantic or epistemic status of notational features. Are tautologies of classical logic, such as \( \neg (p \neg p) \), necessary truths about the world? Do elementary propositions (or atomic facts or possible worlds etc.) exist? The diagram fulfils its function not only without appearing to formulate logical ‘sentences’, but also without making any use of logical constants – such as, in PM-notation, \( v, \supset, \neg, \equiv, . \) – whose nature has been the subject of endless controversies among philosophers of logic. In the diagram, there is just the line connecting various Ts and Fs. In this respect, Wittgenstein’s diagrammatic notation resembles the Sheffer Stroke and Wittgenstein’s own N-operator (see §5.131 and §§5.502, 5.51 and 6, respectively). In fact, the notational minimalism of the line seems to go beyond that of the other two notational devices.\(^10\)

Someone might object to this as follows: ‘This diagrammatic notation is nothing but a crude equivalent to more elaborate logics. In particular, it fails to make explicit the system of rules according to which it operates.

\(^9\) In this respect, Frege’s notation is unrivalled by Russell’s.
\(^10\) See also TLP, §5.4: ‘Here it becomes manifest that there are no “logical objects” or “logical constants” (in Frege’s and Russell’s sense).’ See further §§5.441, 5.53 and 5.531–5.5321, and the related proposal of a solution to Russell’s Paradox in §3.333.
Principia Mathematica, for instance, does a much better job at formulating these “primitive propositions” of logic.’ However, is this not merely the call to construct yet another logical system, in order to model the one we already have? But to whose benefit? For, surely, to the extent that the diagram sufficiently clarified the relevant thought, the job of the logician has been done. Not every logician and philosopher has to be a meta-logician at the same time.

Similarly, general worries over allegedly implicit rules in this diagrammatic analysis seem quite out of place. Compare the following passage from the Tractatus:

If \( p \) follows from \( q \), I can make an inference from \( q \) to \( p \), deduce \( p \) from \( q \). … ‘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)

In other words, once the philosopher of logic begins to question (formalize) the justification of inferences, the asking (formalizing) likely never ends. For, the asking might continue, ‘What, in turn, is the justification of this “law of inference”?’ etc. etc.\(^{11}\)

Now, if constructing logical notations is itself an act of clarification – in that logical notation is supposed to help clarify problematic propositions while keeping philosophical contention, or the appearance of it, to a minimum – then, the logician or philosopher may ask, how might logical problems be solved without thereby engendering new ones? Arguably, the later Wittgenstein’s language-games are designed to do just that; thus, they constitute a logic for philosophy ‘so that it is no longer tormented by questions which bring itself in question’ (PI, §133). Since ‘the very nature of the investigation … compels us to travel criss-cross in every direction over a wide field of thought,’ Wittgenstein writes in the Preface to the Investigations, ‘this book is really just an album.’ There is, therefore, more than one way of reading the text – there are, as it were, different ways of browsing the album.\(^{12}\) And one way of reading it sees Wittgenstein’s language-games as constituting a new kind of philosophical logic. The space constraints of the present text do not permit us to develop even the outlines of this, but trying to see the connections in what Wittgenstein writes in sections 5, 7, 81 and 130 of Philosophical Investigations might give the reader


some indication of what to look out for when next reading the book. Here it is furthermore noteworthy that Wittgenstein uses the term ‘language-game’, like ‘logic’ and ‘grammar’, not only to speak of a technical instrument of logical analysis but also to refer to our language as a whole or certain parts of it, thus stressing the interwovenness of language with life and, in particular, action – insights into which guided Wittgenstein’s development as a philosopher and as a logician.

3 Logical writing in the *Tractatus* and in the *Investigations*

If we intend to take Wittgenstein at his word when he tells us at the end of the *Tractatus* that his sentences will be recognized, apparently without exception, as nonsense by those who understand him, then we face the difficulty of how to explain that at least some of those sentences, far from seeming to be nonsense, quite definitely have something important to tell us about logic. One possible explanation may be sought in connection with what might be described as the remarkable unity of logic, aesthetics and philosophy that can be found in the book.

Let us begin by reminding ourselves of that notorious sentence towards the end of the book, where Wittgenstein writes: ‘My sentences serve as elucidations in the following way: whoever understands me, finally recognises them as nonsensical’ (TLP, §6.54).

If the sentences are to serve as ‘elucidations’, then all the nonsense that makes up the bulk of the book must nevertheless fulfil some function. However, the author offers no explanation of how this might be. Yet, if we take the author of the *Tractatus* at his word – in particular, if we take him as trying to be clear and not to be needlessly enigmatic – then 6.54 will appear as neither obscure nor paradoxical (though nevertheless difficult to grasp). If we understand him, he says, we will recognize his sentences as nonsensical. It is not clear to what extent the converse conditional may also be true. However, in Wittgenstein’s absence, it seems promising to assume the following as our principle: if we see how all of the sentences of the *Tractatus* from 1 to 6.53,

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13 I discuss this topic in a larger manuscript from which the present text has been excerpted. See also O. Kuusela, ‘The Method of Language-Games as a Method of Logic’, *Philosophical Topics* 42, no. 2 (2014): 129–60; and *Logic as the Method of Philosophy: Wittgenstein’s Philosophy of Logic in Relation to Frege, Russell, Carnap and Others* (manuscript).
and possibly 7, can ‘simply be nonsense’ (Preface), then we will understand its author. Furthermore, someone who understands him in this way, the author of the book says, is someone for whom his sentences have acted as a one-way ‘ladder’ – someone, as he puts it, who ‘has climbed through them – on them – beyond them’ ($6.54).

The climbing itself must be left to each individual reader, but the function that all this nonsense fulfils can be formulated as follows. The nonsense of which the author of the Tractatus speaks in 6.54 is one long series of examples of nonsense that ‘stems from misunderstanding the logic of our language’ (Preface). This is an apparently simple structure, but the amounts of ‘climbing’ that are actually necessary in order to understand its point have proved to be immense.

One might think that the Tractatus begins with rather more patent nonsense – ‘The world is all that is the case’ ($1) and so on – and that it continues with nonsense that is increasingly latent, such as the so-called picture theory and the saying/showing distinction. However, according to the author of the book – especially what he writes in 6.54 and in the Preface – it is all one big bunch of nonsense that we need to recognize as such. Each and every sentence from 1 to 6.53, and possibly 7, is nonsense, the author tells us, because it is the nonsense of someone who was driven by his misunderstanding the logic of our language (namely the author himself). So, in his previous attempts to understand the logic of our language, his actually misunderstanding it made him develop inconsistent theories of the ‘sublime’ nature of logic, including a large number of apparent theorems concerning metaphysics, ethics, mathematics, the meaning of life and more besides.

Reading ‘nonsense’ in 6.54 in this way does not imply that any particular sentence of the book, when considered in relative isolation, need be nonsense at all. In principle, they can all be made sense of. Having recognized how all sentences from 1 to 6.53, and possibly 7, are a big bunch of nonsense, one is free to do with the sentences of the Tractatus as one pleases – and ‘its purpose would be achieved if it gave pleasure to someone who read it with understanding,’ (Preface) – but, more importantly, we may also still use the sentences of the Tractatus to ascribe particular thoughts to its author about logic and all other subjects treated in the book.

The final four paragraphs of the Preface clearly imply that the sentences of the book may be of some worth beyond their function as ‘elucidations’, that is, beyond their function as a bunch of nonsense. Beginning with the acknowledgement that ‘to the great works of Frege and the writings of my friend Mr Bertrand Russell
I owe in large measure the stimulation of my thoughts, Wittgenstein speaks of a plurality of thoughts (Gedanken). And he says that, while he is ‘conscious of having fallen a long way short of what is possible’ as regards the clarity of their expression, ‘the truth of the thoughts communicated’ seems to him ‘unassailable and definitive’.

Thus, the author of the Tractatus wishes his work to be read twofold. On the one hand, he wishes his readers to see the sentences of the book as the expressions of his previous misunderstanding the logic of our language. On the other hand, he wishes his readers to see the true thoughts that he thinks his sentences may still communicate. So the book is composed in such a way that, in order to gain a comprehensive understanding of it, readers are required not merely to think through concisely stated views and arguments about logic and more or less related subjects but, at the same time, to engage in a good deal of actual logical clarification in order to sort out the author’s conflicted relation to the very sentences that are supposed to communicate his views and arguments.

On his return to philosophy in 1929, Wittgenstein did exactly that. In fact, it is evident from historical sources, including correspondence that has recently been made available, that Wittgenstein had never really stopped taking an active interest in what, at one time or another, he believed the true thoughts in the Tractatus to be. Eventually, in the text of Philosophical Investigations, Wittgenstein’s continued work resulted in a written account of the kind of logic and philosophy of logic that his earlier self had only been able to gesture at.

Reading the Investigations as teaching the technique of language-games as logic may generally not be the most obvious way of reading the book. One reason why this may be so is as follows. Insofar as it was Wittgenstein’s intention to develop a logic that could be maximally effective in solving philosophical problems while at the same time running a minimal risk of creating new ones (as briefly argued in the previous section), the teaching of this new logic equally had to involve no more than the absolute minimum of controversial elements and, in particular, no general principles or rules of application.

In section 71, Wittgenstein says that ‘one might explain what a game is’ by giving various examples so that the other person may be able ‘to employ those examples in a particular way’. Then he adds: ‘Here giving examples is not an indirect way of explaining – in default of a better one’. I think that we should take this suggestion seriously with regard also to the way Wittgenstein explains what a language-game is, when the latter is understood as a logical device. Wittgenstein could not have explained the logic of language-games by means of
general principles. For one thing, Wittgenstein did not formulate such general principles. Moreover, any attempt to teach this logic primarily by means of formulating general principles would arguably fail, because it really consists of a skill. And, given Wittgenstein’s outstanding mastery, for any ordinary human being acquiring this skill would appear to require a great deal of practice. In fact, unlike other logics the logic of language-games does not typically yield replicable results. Its general aim is, of course, always the same, namely the logical clarification of thoughts. However, the specific language-games (objects of comparison), which it provides to that end, will vary not only with regard to the minutest details of whatever we are investigating but also with regard to the person who is seeking clarification.

For example, let us suppose that in a philosophical discussion about other minds, someone tells us ‘I know what pain is only from my own case’. Let us further suppose that we are unsure how exactly to understand this utterance and that our interlocutor finds it equally difficult to see how we could possibly fail to grasp what he or she is trying to say. Perhaps here we will remember Wittgenstein’s beetles, and quote as follows:

Suppose that everyone had a box with something in it which we call a ‘beetle’. No one can ever look into anyone else’s box, and everyone says he knows what a beetle is only by looking at his beetle. (PI, §293)

Our interlocutor may find this revealing: ‘I see your point, if these people’s word “beetle” had a use nonetheless, it would not be as the name of a thing.’ Alternatively, our interlocutor may not find this revealing: ‘So what? In such a scenario it would be quite possible for everyone to have something different in their box and hence, yes, they too would know what a “beetle” is only from their own case.’ We, again, in our attempt to understand the original utterance, may find either of these reactions useful, or we may not. If not, then we might try explaining our own view of how the language-game is supposed to work, or we might offer a different object of comparison altogether – perhaps the sensation diary of section 258, or one of our own inventions – and so on and so forth until, hopefully, all relevant propositions have become clear to us and we have, in this way, reached a better understanding with regard to both each other’s words and the things in question.

To reiterate, the way in which such an improved understanding might be achieved will usually depend on very specific features concerning various parameters. There are at least the following parameters: the utterance or
expression that we wish to clarify; the putatively expressed thought that we wish
to grasp; the object that the thought is about, if there is any such object; and the
subject who made use of the relevant expression in the first place. Ultimately, it
is this kind of particularism, which in one form or another characterizes all his
later philosophy, that made it practically impossible for Wittgenstein to teach
the logic of language-games in any more 'direct' way than by examples.14

The text of the Investigations has often been criticized for being 'erratic',
'pretentious' or 'oracular'. This seems wrong. Instead, we can appreciate the
logical character of the text through which Wittgenstein had intended to present
his new logic and his new philosophy. For the author of the Investigations, there
was the difficulty of how to get his readers to pick up a certain logical activity
from him without, as it were, telling them what it is – so as to prevent the activity,
which was designed to solve problems, from creating new ones. Furthermore,
as a consequence of the particularist character of that which he wanted to get
his readers to do, there was the difficulty of how to demonstrate to them that
it is a good method for them. This latter difficulty meant that Wittgenstein
had to come up with some very powerful examples (language-games), that
would fulfil their clarifying function more or less immediately for as many
individual thinkers as possible. Arguably, the shopkeeper (§1) and the builders
(§2) are indeed such powerful examples. Wittgenstein's numerous variations
of language-games serve this purpose too. Dialogues accompany most of the
language-games in the Investigations, which offer discussions from different
perspectives. Finally, Wittgenstein added a good number of reflections, analogies,
metaphors, comparisons, etc. to further characterize the kinds of activity that
he wants his readers to pick up from him. Wittgenstein's composition of the
text of Philosophical Investigations, including his employment of literary devices,
constitutes an elaborate extended act of logical clarification, because it forms an
essential part of the exposition of the logic of language-games.15

14 For more on the dialectic between objective and subjective moments of Wittgenstein's philosophical
method, see S. S. Grève, 'The Importance of Understanding Each Other in Philosophy', Philosophy
15 I would like to thank Stefan Giesewetter, Wolfgang Kienzler, Oskari Kuusela, Anat Matar and Sarah
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