Regular Article

Jaap van der Does*, Martin Stokhof

Tractatus, Application and Use

Abstract: The article argues for a contextualised reading of Wittgenstein's *Tractatus*. It analyses in detail the role that use and application play in the text and how that supports a conception of transcendentality of logic that allows for contextualisation. The article identifies a tension in the text, between the requirement that sense be determinate and the contextual nature of application, and suggests that it is this tension that is a major driver of Wittgenstein's later ideas.

1 Introduction

Wittgenstein's philosophy offers a family of themes, some of which develop continuously. "Use" is one prominent example. In this article, we focus on use and application in the *Tractatus logico-philosophicus* ("*Tractatus*" for short). We propose to read the *Tractatus* in a contextualised way, both the book as such and the logic on which its philosophical method is based. From that perspective, we give a detailed exposition of the role that use and application play in the *Tractatus*. Use as an element in the *Tractatus* has been discussed by a number of authors. We review these contributions in Sections 2–4. We go on to expand on this in the remainder of the article. In Section 5, we investigate the various references to application and use that can be found in the text. Section 6 investigates a friction in the *Tractatus* that we think is present. In Section 7, we make some preliminary observations concerning a number of questions that are raised by our analysis. And in Section 8, we discuss the contextual holism we discern in the *Tractatus*. In this introduction, we briefly position the topic in current debates, so as to make clear what the article is, and what it is *not* about.

Continuity is a question that frames a substantial part of the literature on the *Tractatus*: to what extent are Wittgenstein's ideas in his early work and those in his later writings linked? The issue has a long history. In the 1960s, Rhees[1] argued that the *Tractatus* and *Philosophical Investigations* share a main theme: philosophy of logic, a view that was picked up and expanded on recently by Kuusela.[2] In the early 1970s, Kenny[3] maintained, contrary to the prevailing "Wittgenstein 1 versus Wittgenstein 2" view of the time, that besides obvious differences there are many themes in Wittgenstein's work that surface continuously: language and reality, the pictorial nature of language, logic and grammar, mathematics, ethics and religion, metaphysics, philosophy as a therapeutic activity, and so on.

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1 See Rhees, "Philosophy."

2 See Kuusela, *Logic*.

3 See Kenny, *Wittgenstein*.

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* Corresponding author: Jaap van der Does, Faculty of Philosophy, Theology and Religious Studies, Radboud University, Nijmegen, Netherlands, e-mail: j.vanderdoes@ftr.ru.nl

Martin Stokhof: Department of Philosophy, Tsinghua University, Beijing, China/Institute for Logic, Language and Computation, Department of Philosophy, University of Amsterdam, Amsterdam, Netherlands

Initially, Kenny's view gained ground only slowly, but the discussion got a decisive boost with the advent of the debate around the "new Wittgenstein." Diamond, Conant, Ricketts, Goldfarb, and a number of other authors defended a strong "continuity thesis."[4] Many of these studies focus on the goals and methods of philosophy and centre on the issue of "philosophy as therapy (only)."[5] As a consequence, for a considerable time the discussion of continuity was predominantly framed by the question whether the *Tractatus* should be read in a radically resolute way, i.e. as maintaining its own nonsensicality. At first, the resoluteness debate mainly appeared to be an exchange of often rather apodictically formulated opposing views.[6] But as is usually the case, over time the debate, although far from over, became more nuanced. In the course of that, the appreciation of the resolute reading by some of its proponents also changed. For example, in his contribution to Read and Lavery, "Wars," Goldfarb argues that the idea of a resolute reading needs to be construed as "[...] programmatic, and our understanding of its results depends entirely on the execution of the program. Little of this has in fact been done."[7] As Goldfarb sees it, "What Wittgenstein is urging is a case-by-case approach. The general rubric is nothing but synoptic for what emerges in each case."[8]

In order for the discussion on continuity to have a point, it seems we need to take this one step further and ascribe to Wittgenstein's work, including the *Tractatus*, some form of philosophical content, and maintain that, despite the explicit "hands-off" proclamations we can find, e.g. in *Philosophical Investigations*, Wittgenstein is engaged with formulating perhaps not philosophical "theses" but philosophical insights that are substantial nevertheless. This is an exegetical tension, which is aptly formulated by Kenny in the preface to the revised edition of his 1973 book:

> It is not easy to reconcile Wittgenstein's philosophical practice with his description of the role of philosophy.
> [...]
> There are, I believe, two reasons, corresponding to two different tasks that Wittgenstein assigns to philosophy. First, there is the negative, therapeutic task of philosophy: the resolution of philosophical problems by the dissolution of philosophical illusion. Second, there is the more positive task of giving us an overview of the actual working of our language. (The two tasks, of course, overlap.)[9]

We surmise that the moderately resolute programme that Goldfarb outlines in the end will have to deal with this as well. Wittgenstein's philosophy has strong therapeutic effects – an aspect it shares with all philosophy worth its salt – but each bit of therapy, however non-theoretic and piecemeal its treatment, comes with a modicum of normality, a way to clarify sense. We think the *Tractatus* is no exception.

From this perspective, engaging in the discussion on the continuity of particular topics should be possible without having to enter the debate on resoluteness. In this article, we will proceed on that assumption and look into one particular topic on which the *Tractatus* says little, and the later work a lot, viz., the role of use and application.

Although the main thrust of our study is to establish that the logic in the *Tractatus* is applied logic, this view only comes natural against the backdrop of the contextualised nature of the book itself and of its theses. In the next three sections, we give a critical overview of what the existing literature has to offer in this regard.

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4 The literature is too numerous to be listed in full. Seminal contributions are Diamond, "Ladder," Diamond, "Ethics;" Ricketts, "Pictures," Conant, "Elucidation." Cf., also various contributions to Crary and Read, "New Wittgenstein."

5 Some authors also address other topics, such as ethics or logic, and that is no coincidence. In Wittgenstein's work, many of these topics are connected, and hence a claim about (dis)continuity of one may have repercussions for claims about (dis)continuity of others.

6 Cf., e.g., McGinn, "Elucidation;" Proops, "Critique;" Mounce, "Notice;" Hacker, "Whistle," for some early reactions to the views referred to above.

7 See Goldfarb, "*Überwinden*," 15.

8 Ibid., 17.

9 See Kenny, *Wittgenstein*, xv.

2 Clarity: the book and its use

There is great comfort in being able to read a book, so that its title means roughly what one expects it to mean, and to understand its preface as indicating what its author is after. Kienzler[10] reminds us that in the literary culture Wittgenstein belonged to – Goethe, Kraus, Kürnberger, among others – striving for such clarity is an author's literary, perhaps even ethical duty. Kienzler argues that the *Tractatus* is best seen as part of this tradition, and this with philosophical gain.

According to Kienzler the main aim of the *Tractatus* is clarity, which is in contrast with the scientific precision that Frege and Russell aimed at. To achieve clarity is the part and parcel of the rudimentary dialogue of which traces can be discerned in the *Tractatus*. It involves the author and a conversation partner who is addressed at the beginning of the preface and again explicitly near the end of the book in 6.54. The author attempts to bring about clarity in his partner's philosophical attitude. On this view, the language of the *Tractatus* is not particularly special: it is embedded in common language, with its various idioms, some organically grown and some more technical. The *Tractatus* employs common terms such as "world," "thing," "state of affairs," "situation," "name," "sentence" instead of abstruse terminology, and this is not to concoct a specific metaphysics that is presupposed in all meaningful language. These words concern the logic of our daily language, and they are used to make the sometimes complex ways in which they are internally related, perspicuous, and clear. Indeed, clarity should not be confused with simplicity and is of course relative to the complexity addressed.[11] When complexity is high, the exact precision may well be the only way in which clarity can be had. Still, clarity comes first, precision second.

The view that the *Tractatus* has the basic structure of a dialogue, has interesting consequences for the nature of its theses. In the preface, the *Tractatus*' author addresses the reader who will understand his text and may derive pleasure from it. Near the end of the book, the addressee surfaces again:

> My sentences elucidate so that he who understands me eventually recognises them as nonsensical, when by their means – via them – he has climbed beyond them. (He must so to speak throw away the ladder after he has climbed up on it.)
>
> He must get over these sentences, then he sees the world rightly. 6.54

Kienzler[12] has a careful discussion of the term "*unsinnig*" (nonsensical) in the German original. According to him, the term "*Unsinn*" (nonsense) in the *Tractatus* is *not* part of a strictly regimented terminology. Early Wittgenstein is subtle enough to discern different kinds of language use – descriptions, tautologies and contradictions, identities, psychological sentences, scientific laws, mathematical equations, ethical sentences – and aims to clarify in varying degrees of detail how they function and how they are related. Accordingly, "his elucidations are more diverse than commonly understood. [...] There can be many reasons why something is '*unsinnig*'."[13]

How do the *Tractatus*' theses and Wittgenstein's reflection on them in 6.54 fit into this? His reflection is not so much on a shared feature of the *Tractatus*' theses themselves but on how each of them may help clarify the nature of the philosophical activity and the application of its logical tools. If indeed Wittgenstein aimed to write the book in a language that presents the complexity of its subjects as clearly

10 See Kienzler, "Sprache."

11 There is a striking similarity between Wittgenstein's work and the cultural tradition it belongs to that Kienzler does not discuss. Take the work of Kraus. He clearly places himself in this tradition: "Only a language that has cancer inclines towards coining new words. The use of uncommon words is a literary rudeness. One may only confront the audience with the complexity of thoughts." (Kraus, WA 8, 122 f. Translated from Kienzler, "Sprache.") In line with this, Kraus' writings are phrased in clear, unadorned language. Yet the topics he addresses are complex and accessible only to cultured experts who are refined enough to appreciate its numerous allusions. Today, this makes some of Kraus' work quite inaccessible, unless embedded in footnotes whose length exceeds that of the original texts by far. Cf., e.g., Franzen, "Kraus," or the German volume it is based on. The ratio between Wittgenstein's work and its secondary literature is as intimidating.

12 See Kienzler, "*Sprache*."

13 The nature of the *Tractatus*' elucidations has been a widely discussed topic, cf., e.g., Hacker, "Elucidations;" McGinn, "Elucidation;" Conant, "Elucidation," to name just a few. Hacker's analysis is primarily historical–comparative, as is that of Conant. Both focus on the relation between Frege's conception of elucidation and that of early Wittgenstein, and neither one places this in the context of the *Tractatus*' remarks on use and application. The analysis of McGinn does take up that point. However, it does not contextualise the *Tractatus* in as radical a manner as is argued for in this study.

and non-technically as possible, we think it is fairly obvious that the language used to clarify his methods is different from the use of language as a part of the method. Compare games: one may employ illegitimate "nonsensical" moves while explaining a game, while playing it one may not. Similarly, clarification of the *Tractatus'* method makes sense as long as any unclarity remains; but once the point of the method is recognised, the theses stop being useful and thus lose their sense. What remains is their application in the philosophical activity. It is this dynamics that Wittgenstein reflects on in 6.54.

In recent literature similar points of view have surfaced. For example, MacNeil analyses the *Tractatus'* propositions as providing an "instruction manual" and claims that there is no fixed distinction between meaningful and meaningless:

> It is worth noting that the distinction between meaningful and meaningless nonsense cannot be drawn in logic. Instead, it is shown in the use to which nonsensical expressions are put.[14]

Similarly, Tejedor observes:

> Since the difference between instructing and depicting is exhausted by the use of signs – since this difference lies, exclusively, in a different use of signs (and not, e.g. in the kind of stuff that the signs are made of, physical or mental) – it is not possible to use a sign to instruct and depict simultaneously: when a sign is used to instruct it is, for that very reason, not being used to depict – and *vice versa*.[15]

Another example is Wawrzyniak. He observes that Wittgenstein regards philosophy as an activity (4.112) and that elucidations play a key role in that. This means according to Wawrzyniak that "[…] the elucidations contained in the *Tractatus* are not – so it would seem – philosophical propositions. So what are they? What is their function?" Wawrzyniak argues that they function as "rules of translation:"

> That is, they allow one to translate sentences formulated in one notation into sentences formulated in another. The translation serves to avoid confusions generated by mistaken interpretations of our statements.

> However, it should be added that after one has arrived at a definitive termination of the process of reading, one stops using the *Tractatus'* sentences, and when one stops using them, then they are recognised as nonsensical.[16]

This is similar to the position taken here, but we do think it is too systematic to restrict theses to "translation principles." As we recalled above, the clarifications in the *Tractatus* are not uniform. They are like the grammatical statements that Wittgenstein started to discern more clearly in his middle period.[17] Yet 6.54 already hints at such statements being different from "plain" descriptions and the other forms of language the *Tractatus* reflects on.

Kuusela[18] defends a similar position. Starting from a distinction made by Korhonen, he distinguishes between norms of logic, which humans know pre-theoretically, and the logical notation that captures these norms (49). Notations may vary, but in the end they all capture the unique logic (36, 106). Humans have the ability to recognise a logical notation in which "all is right" (cf., 4.1213). Indeed, the one thing that is demanded from us is to come up with a proper notation (cf., 6.1223) which, as Wittgenstein would phrase it later, "is the last expression of a philosophical view" (105). Logic, as embodied in this notation, "takes care of itself" (cf., 5.473) and cannot be justified. Kuusela carefully argues that in this way Wittgenstein aims to circumvent the logocentric predicament he discerns in the philosophies of logic of both Frege and Russell:

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14 See MacNeil, "Baedeker," 357.

15 See Tejedor, "Form," 15–6.

16 See Wawrzyniak, "*Sätze*," 2.

17 Cf., Kuusela, *Logic*, 7, for a careful comparison of Wittgenstein's notions of "logic" and "grammar." In view of the applied nature of the *Tractatus'* logic, that is argued for in what follows, we think there is more continuity between "logic" and "grammar" than Kuusela suggests: Wittgenstein's use of the word 'grammar' reflects his later non-intellectualist conception of language, whereby language is seen as intertwined with actions and human forms of life, and as something that emerges from acting and doing of embodied beings, rather than having its basis in disembodied reason. Our understanding of the term "logic" can be found on p. 6. We shall argue that the human roots of logic are already present in the *Tractatus*.

18 See Kuusela, *Logic*.

to account for logic, they must presuppose and employ logic. Now Wittgenstein's approach would be to no avail if logic cannot be clarified in full. In a detailed comparison with Carnap, Kuusela argues that, if phrased in a proper notation, the sign of any material description shows its logical form, much like introducing it in Carnap's material mode of speech. More abstract formal notions – such as "name," "elementary sentence," "sentence" – can be clarified by using variables. So rather than as self-annihilating, the relevant theses in the *Tractatus* are best taken as employing the material mode to clarify its logical notation and thus indicate which means one has – definition, formal abstraction – to translate everyday speech into logic. With logic clarified, the main tool of philosophy as activity is in place. Thus, Kuusela arrives at a strong interpretation of the status of the tractarian theses on logic.

To sum up, in line with Kienzler and Kuusela's views on this, we hold the *Tractatus* to be based on the assumption that, prior to any philosophical reflection, large parts of our common language have meaning and are already logically in order (cf., 5.5563). The aim of the book is to help clarify how philosophical problems are rooted in our misunderstanding of the logic of our language. Its theses make plain how philosophical activity can remedy misunderstanding – only then philosophy makes sense – and which tools are available. The remedy consists in logical clarification of language that is misused. Such clarifying activity has strong therapeutic effects: both on the philosophical problems at hand, which, once their (lack of) logic is plain, are often resolved, and on the logic used in the process of philosophical clarification itself. The clarified logic can also be used to shed light on the nature of mathematics, science, ethics, and other issues.

The crux of all this, we would like to stress, is that early Wittgenstein's philosophy and its tools are applied rather than theoretical. Wittgenstein's philosophical activity employs language that tries to stay as plain as the complexity of the problems addressed allows for. Of course, when the clarification concerns philosophy's own tooling – and large parts of the *Tractatus* and thus of our article do – it will use an idiom that is less common. Still, here, too, the first aim is clarity rather than scientific precision. Even for early Wittgenstein, precision should serve a purpose, philosophical or otherwise.[19]

This contextualised perspective on the book as a whole raises a further question: if philosophy is best seen as consisting in humans' acts of clarification, how should the opening sections of the *Tractatus* be read? We will address this question next.

3 The opening sections: mythology, ontology, logic?

Do the opening sections of the *Tractatus* breathe new life in age-old metaphysics using novel logical means? It often has been read this way, i.e. as providing the ontological bedrock on which the *Tractatus*' logical edifices rest. Logic does not really take care of itself, but its realistic ontology does so. The position finds an ardent defender in Hacker[20] who is thus forced to defend a strong discontinuity between early and late Wittgenstein. By contrast, we think the opening is best read as introducing the

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19 It is fair to say that Wittgenstein sometimes underestimates complexity, especially when it comes to logic and mathematics. Although clarity should come first, it may still be necessary to use more formal means to clarify precisely what Wittgenstein's logical insights amount to. (At this point, we seem to disagree with Kienzler.) To give just one example, 5.512-3 indicate that Wittgenstein preferred a perfect notation. A perfect notation exhibits what could be called the "contingent nucleus" of a description, i.e. a sign that shows its sense without any logical redundancy. For example, the truth-functional operations OR(,), AND(,), and NOT() when applied to the elementary sentences p, q as in OR(AND(p,q), AND(p,NOT(q))), should yield the sign p, for q does not contribute to the sense. (Cf., Van der Does, *Silence*, Chapter 9, for details.) Now being able to determine the contingent nucleus of a sentence implies being able to show its consistency, which in general is a complex matter, even for propositional logic. To come to grips with it, more clarification is needed than that elementary sentences are like logical models, that logical operations do not refer, that projected truth-table signs show sense, that logical sentences are tautologies or contradictions, etc.

20 See Hacker, *Insight*.

Tractatus' logical scheme without delay. This view bears some resemblance to those of McGuinness and Rhees but differs in a number of ways.[21]

3.1 McGuinness

McGuinness argues that the *Tractatus*' first two groups of theses are best read negatively: there is no ground to read them as offering the classic statement of a realist semantics. For one, the Tractatus does not mention any kind of ostensive definition that would turn tractarian names into proxies of objects given independently of language. There is no "lucky power of our minds" that makes tractarian names answerable to the configurational combinatorics of sempiternal objects (as Hacker[22] would have it). In general, there is no metaphysics to be recognised in logic or the nature of our language on which, once discerned, logic and language happen to depend. Rather, "it will be clear on reflection that such arguments would be the sort of metaphysics that [Wittgenstein] condemns".[23]

With this negative aspect in place, what *is* Wittgenstein doing in the *Tractatus*? McGuinness holds "he is doing logic and basing philosophy on it". He concludes:

> [...] the whole ontology is a transferred and illegitimate use of words like '*bestehen*.' It is a kind of ontological myth that he wants to give us to show the nature of language. As is well-known, one of the chief results of the view of language so attained is the rejection of all such myths.[24]

For McGuinness, too, philosophy is clarification, it is "the activity of making clear the limits of language." However, since what is to be clarified cannot be described – namely, the logic of our language – the clarification is an attempt to show rather than to state. This after all was the mistake of much previous philosophy: that it modelled itself on the scientific approach and so was forced to hold that its "necessary truths" were of a special kind. The logic of our daily language is no science, nor is it dependent on a quasi-scientific ontological structure. Logic takes care of itself. This does not mean that McGuinness does not recognise a certain "hardness" of the world. It is not up to us to decide which elementary sentences are true or false, or to ensure the world is as we wish. But in the last analysis, Wittgenstein's logic of language does not fit any "ism":

> His position is one, as indeed he tells us, from which realism, idealism and solipsism can all be seen as one.[25]

3.2 Rhees

There is much in McGuinness' position with which we find ourselves at ease. Still, we think that its core – viewing ontology as a myth – is one bridge too far.[26] McGuinness' takes Rhees' position as a point of departure, which is mainly developed in the first half of the 1960s.[27] Rhees was among the first to warn

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21 What follows focuses on arguments that concern logic and its application. In Stokhof, *World*, it is argued that Wittgenstein's claim about the "ethical point" of the *Tractatus*, as well as the contents of his views on ethics, provides ample reason for a contextualised view on the *Tractatus*' ontology. We will, however, leave that line of reasoning largely aside in what follows. A similar line of thinking can be found in Friedlander, "Logic."
22 See Hacker, *Insight*.
23 See McGuinness, "Realism," 84.
24 Ibid., 85.
25 Ibid., 94.
26 See Rhees, "Ontology," Chapter 3. Cf., also the discussion in Stokhof, *World*, 154–71.
27 Cf., the initial four essays in Rhees, *Discussions*.

that the *Tractatus*' opening should not be read as providing a classic ontology. Black[28] used ontology as a standard for the adequacy of a symbolism, but Rhees' counters:

> If we ask what Wittgenstein means by "adequate symbolism," we shall look to the relation of sign and syntax: for it depends on that. So it is pointless to say, as Black does: we must have some view of what reality is like, before we can ask if the symbolism is adequate to describe it. [...] What comes first is the truth or falsity of *material* propositions – in other words *sense*. Without this we could not even speak of *possible* signs. But to call this "ontology" is confusing. And to say that the discussions of logic are important because of the ontology which is built on them, is to stand the whole thing on its head. [...] Logic is the basis of *philosophy*. And Wittgenstein did not say there or anywhere else that logic has *implications*.[29]

Rhees is subtle. What is he after in this quote? Does he think, as does McGuinness, that a realistic ontology is a myth? When comparing Rhees' view with that of McGuinness, we see important differences. Nowhere does Rhees hold that Wittgenstein's use of words in the *Tractatus* is illegitimate. He rather reminds us of their humble origins – e.g. the connection between the noun "*Bild*" (picture) and the verb "*abbilden*" (to picture) (4) – and stresses the human aspect of the *Tractatus*, where our ability to invent logical forms (2) or to use logical operations (31–36) takes centre stage. In clarifying this aspect of language, our common language may be stretched to its limits, when philosophical confusion urges us. But that does not make its use illegitimate.

In Rhees' own vocabulary, the term "syntax" may be an example. Even in the 1960s, it may have signalled to a reader the rules governing the generation of a set of well-formed strings. Winch held this position, and more recently Kuusela comes close.[30] Instead, we think Rhees' use of "syntax" is akin to Wittgenstein's use of "logic" or "grammar:"[31] it is concerned with all forms and rules that may be applied in the expression of sense prior to any evidence for truth or falsity. Consider, for example, how in the above Rhees connects the possibility of a sign with its sense.

It is also worth noting that Rhees, like McGuinness, takes for granted that reality has a certain "hardness." Reality makes some sentences true and others false, independent of how we have constructed them. Still he does not presume that any realistic ontology is given in advance. What appears to be an independent, realistic ontology is part of the logic that we must use to express sense. Realism takes the shape of an applied syntax or logic in which there is an intra-logical balance between "what is out there," independent of what we wish or do, and our ability to describe it. Thus, the adequacy of a symbolism does not lie in a perfect fit with an independently given reality: it should fit, among other things, the descriptive purposes of the logical nets we cast over reality.

We, too, think the word "logic" is used to indicate the scheme that must be adhered to when expressing sense. It encompasses elementary propositions, facts, names, objects, truth-table signs, truth-operations, and so on. On this view, tautologies and contradictions are limit cases of logic, which exhibit its structure in a pure manner. The perhaps unexpected intertwining of the ontological terms "facts" and "objects" in this list is due to the intra-logical nature of the how these notions are related, respectively, to "sentences" and "names."

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28 See Black, "Companion."

29 Rhees, "Ontology," 23–5.

30 Although Kuusela, in *Logic*, is sensitive to the role of (syntactic) use; e.g. 58, 60, his final position is that in the *Tractatus* language and its logic constitute an ideal abstract entity for which "the peculiarities of human make-up, their psychology and physiology or their environment are not relevant" (109–11). Intending a determinate meaning results from a sign based on precise rules fixed in the mind of the speaker (115–7).

A strict division between syntax and what it describes makes it hard to see how at the elementary level the isomorphism that Wittgenstein requires between the two is established. Kuusela, *Logic*, 69, 80, seems to hold that the specification of a logical syntax abstracted from language use suffices. For us this is hardly convincing. For example, even if a rule is abstracted from use its formalisation still does not determine how it is to be applied. In what follows, we argue for a contextualised notion of logic in which the isomorphism is intra-logical.

31 Noting that Wittgenstein uses the term "syntax" in his middle period.

That Wittgenstein was not after an independent investigation into the structure of ontology is strongly suggested in the *Notebooks 1914–1916*.[32] All phrases pertaining to ontological categories, like "function" or "thing," are "on the Index; but how is *shown* what we want to express by means of them?" (8.10.14.r). The answer is, or so we think: by means of an adequate, applied logic. In the use of logic, "names," "things," and "projection" are logical notions that capture all that are needed to get an instantiated logic going. No "theory of types," or syntactical rules to that effect, is to be had:

> If syntactical rules for functions can be phrased at all, then the entire theory of things, properties, etc. would be superfluous. It's also very remarkable that neither the '*Grundgesetze*' nor the '*Principia Mathematica*' speak of such a theory. Once more: logic should take care of itself. A possible sign must be able to signify. Anything that is possible, is also allowed. Let's remind ourselves of the explanation of why 'Socrates is Plato' is nonsense. Namely because we have failed to establish an arbitrary convention, not because the sign in and of itself is illegitimate. 22.8.14.r

Wittgenstein once suggested that the time prior to finishing the *Tractatus* was his only truly creative period.[33] The above passage presents his supposed realistic ontology as a logical breakthrough different from what Frege or Russell had achieved in their major works. What appears to be ontology is much rather like applied combinatorics that should make clear which ingredients go into the logical modelling that our descriptive capabilities must make use of, and this without falling prey to contradictions or having to introduce an ingenious but wanting "theory of types." Is not the novelty of this insight sufficient reason to have it open the book that aims to indicate how applying logic can provide definitive solutions to all philosophical problems?[34]

If this is indeed the case, and we think there are good reasons for thinking it is, then the contextualised reading of the book as a whole is mirrored in the fundamental role of application in logic, and so in ontology. But how does that affect the status of logic as such? Is logic relative, in the sense that its structure is given only in application, or is it absolute, entirely independent of application?[35] In the next section, we will take up this question.

4 The logic: absolute or relative?

The main contribution of this study is the view that the logic introduced in the *Tractatus* is transcendental while still essentially applied. Although applied, logic remains non-empirical: it is much rather an independent prerequisite for all empirical description. Indeed, we take transcendentality as relating to application and use. This differs from the traditional notion, which, generally speaking, is concerned with the human ability to know. Transcendental are the preconditions that must be adhered to in order for meaningful language and normative practices to be possible. Our focus is on the transcendental nature of the logical scheme.[36] Thus, as has been observed often, Wittgenstein's notion of logic differs in important ways from the platonic realism of Frege – with logic describing eternal necessities in a realm independent of

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32 The passages quoted are taken from MS101, on which the published version Wittgenstein, "Notebooks," is based. The translations are our own.

33 Cf.: "Anyway when I was in Norway during the year 1913–14 I had some thoughts of my own, or so at least it seems to me now. I mean that I have the impression of having given birth to new lines of thinking at that time (But perhaps I am mistaken). Whereas now I seem just to apply old ones" (Wittgenstein, *Culture and Value*, 17e).

34 That ontology is dependent on language was argued for extensively in Stokhof, *World*. Cf., also Van der Does, *Silence*. Here this thesis is revived and refined, and the argumentation for it strengthened further. Others who have argued for such dependence include, e.g. Ruiz Abánades, "Uso."

35 In general, we use the word "relative" in contrast to "absolute," where both concern dependence, a notion which may vary per topic. Ontological dependence, logical dependence, causal dependence, and so on are all different. Something is absolute if it does not depend on anything, otherwise it is relative (in the intended way). We trust the context makes clear which variant of "absolute" and "relative" is meant.

36 For reference to our earlier discussion of ethics, cf., footnote 22.

anything human – or the scientific realism of Russell – with logic being the most general empirical science. Even for early Wittgenstein, logic functions much like a grammar that enables and bounds the expression of sense, and so is an essential prerequisite of our mundane language use.

Before starting our exploration of the role that application and use play in shaping these preconditions in Section 5 ff., we do well to briefly review some of the earlier work that already points in that direction.

4.1 Stenius

Recognition of the practical nature of Wittgenstein's view on logic goes a long way back. Rhees[37] takes the embedding of logic in human abilities for granted. And as early as 1960, Stenius[38] argues that substance should be understood in a relative, not in an absolute manner:

> The formation of the system of atomic states of affairs is, to be sure, *prior* to a description of the world, and forms a framework for it, but this framework can be chosen in different ways, and every choice determines a separate system of possible worlds.[39]

Stenius based his suggestion only on the *Tractatus*, which, as he hastens to acknowledge, has quite a few theses that suggest the opposite: an absolute rather than a relative totality of states of affairs, e.g. 2.022, 2.023, 2.0124, and 3.25. However, in line with Stenius' suggestion, these theses can be understood as concerning "the world as I found it," in which humans use their ordinary language in a determinate meaningful way, within a particular framework.

According to Stenius, substance is first and foremost a logical notion that figures prominently in the application of logic. It is what instantiates the forms that a framework of application supplies, in the context of states of affairs. Substance is at the heart of the type-token ambiguity that Ramsay made us aware of in his "Critical Notice."[40] Here the ambiguity extends to frameworks, of which one and only one can be instantiated at any given point. Logically, objects are content and form; in other words: they are tokens or instantiations of types. To put it somewhat misleadingly: bare being (content) can be taken as an absolute totality, but its form is unique only relative to the framework that is instantiated. Similarly, analysis is unique within a framework. It should be emphasised, however, that instantiation is always holistic.

In his argumentation for a pluralistic take on substance, Stenius makes a concise but strong appeal to 5.55 and its offspring, which also figures prominently in our elaboration below. For now, let us draw attention instead to some entries from MS101, of which a selection was published one year after Stenius' book. At the end of MS101 in particular, Wittgenstein makes a holistic move toward "systems of co-ordinates," which "for sure" need not be unique:

> The internal relation between the sentence and its meaning – the method of signification – is the system of co-ordinates that project the state of affairs into the sign. The sentence corresponds to the basic co-ordinates. [...] For a statement to be possible the logical co-ordinates must really determine a logical location! 29.10.14.r

> If we allow for these methods of signification, what then is really characteristic for the relation of representation?

> Can't we say: for sure there are different systems of logical co-ordinates!

> For sure there are different methods of representation, and what represents is not just the sign or the picture but also the method of representation. *All representation has in common that it is either right or wrong, can be true or false.*

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37 See Rhees, *Discussions*.

38 See Stenius, "Exposition," 84–7.

39 Ibid., 84

40 See Ramsey, "Notice."

> For picture *and method of representation* are entirely outside of what is represented! Both together are true or false, namely *the picture, in a determinate way*. (Of course, this also holds for the elementary sentence!) 30.10.14.r

It is worth emphasising that it is the assumption of determinate sense which is held to be characteristic of all representation, and *not* a determinate structure of ontology that must be adhered to.[41] Quite contrary to what is often assumed, we think in the *Tractatus* examples of such co-ordinate systems can be found, e.g. the networks discussed in 6.341-2. Stenius already made clear – using the additivity of velocity as an example – that the choice of network helps to simplify the application of logic, in this case in a scientific context. It is also beneficial to recall Wittgenstein was among the first to realise that such pragmatic variation does not hamper the tautologies and contradictions of logic "proper," in which in the final analysis all descriptive contents typical of a framework are dissolved.

4.2 Ishiguro

This brings us to Ishiguro's classic paper on the use and reference of names.[42] We read it as focusing on a crucial feature of Stenius' approach. The main thrust of Ishiguro's paper is that reference cannot be secured prior to, or independent of, description. In defending this thesis, Ishiguro makes clear that in the *Tractatus* names and their reference are different from the proper names in natural language and their reference. Names and reference are logical notions. Similarly, the *Tractatus* notion of object is a logical one and differs from the ordinary notion. Consequently, language and its logic are not held to be answerable to, or to be dependent on, any realistic ontology. Instead, Ishiguro makes a strong case for continuity in Wittgenstein's work, based on the notion of "naming" and that of "use" that she sees involved in it. The nub of Ishiguro's position is a strong form of contextuality: "We settle the identity of the object referred by a name by coming to understand the sense, i.e., the truth-conditions of the proposition in which the name occurs."[43] Indeed, the "use" of names that the title of the paper refers to is grammatical: it concerns the part that names play "in making up propositions which have sense."[44] Particularly important examples of such propositions are the notorious elucidations of 3.263.[45]

This is a good occasion to stress that the words "context" and "contextuality" are somewhat ambiguous. Ishiguro uses "context" logically: it concerns the context of a name (or an expression) as proper part of a sentence used with sense. This is the notion of Frege's context principle and of *Tractatus* 3.3.[46] But when applied logic is at stake, the term "context" has a broader, perhaps also vaguer application, which includes one's logical abilities and aspects of the world used to express sense.

In her analysis, Ishiguro stresses an important feature of Wittgenstein's early philosophy: do not separate what should only be distinguished, since no philosophy is able to mend such separation. For example, Wittgenstein does distinguish the sign of a sentence from its sense, yet sense cannot be had without sign. In a similar vein, sense cannot be separated from the projection of elementary sentences, of which the reference of names is an essential part: "The identity of the references of the names and the sense of the elucidations are nor *logically* separable."[47] Indeed, objects need not be perceptible or present prior to

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41 Other than Dummett would have it – cf., e.g. Dummett, "Realism," – it is our use of language that shapes the fine-grained aspects of classical logic, not reality *simpliciter*.

42 See Ishiguro, "Use."

43 Ibid., 34.

44 Ibid., 24.

45 Cf., the references given in footnote 14, which also include some on the broader notion of elucidation concerning more than that of names.

46 Cf., Sullivan, "Context," for a detailed discussion.

47 See Ishiguro, "Use," 29.

the creation of sense. They instantiate co-ordinates of a logical possibility and so should be understood intentionally. In short, "name," "reference," and "object" are all notions in the province of applied logic and its intensional space of logical possibilities.[48]

It would lead too far to discuss all the ins and outs of Ishiguro's seminal article.[49] But there is one aspect with which we disagree and that has an important bearing on the current subject. Ishiguro holds that "unlike Frege, Wittgenstein does not think in terms of saturated and unsaturated sense, or complete and incomplete parts of thoughts."[50] Also, the signs of names, she claims, are "completely conventional" and "display no logical structure."[51] Instead we would argue that what Ishiguro says of the identification of objects hold as much of names, for logically names are objects *used* as names.

In the *Tractatus* itself there is evidence that the interaction between language and reality is more subtle than Ishiguro suggests. To begin with, here are two such indications:

> A picture is a fact. 2.141

> The sentence-sign is a fact. 3.14b

As the world is the totality of facts (1.1), there must be at least some part of language that is in the world. But how can this be if the most basic element of language is purely conventional and without logical structure? The *Tractatus* remains silent on the issue, so we must look at its sources to get a feel what insights 2.141 and 3.14b distil. MS101 is particularly helpful in this regard. On 23 September 1914, Wittgenstein writes:[52]

> It could be asked: how can a state of affairs p have a property, if in the end nothing such is the case? 23.9.14.r

To get clarity on this important topic, Wittgenstein makes an identification.

> [...] this is identical with the question of how states of affairs can be correlated with each other (one that signifies and one that is signified).

> This is only possible via the correlation of constituents; the correlation of name and thing named gives an example. 25.9.14.r

About a month later, Wittgenstein moves from elementary sentences to sentences in general, with a special focus on the puzzling, completely generalised sentences in which no material content appears to be present. Here he has a breakthrough:

> [...] completely generalised sentences are logical constructions from states of affairs. 20.10.14.r

In 2.141 and 3.14b, Wittgenstein refines this by taking the signifier to be (a logical construction) of a fact, which concerns realised and not "just" possible states of affairs. We only make pictures to ourselves with what is really available.[53]

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48 Ibid., 40.

49 Cf., Stokhof, *World*, Chapter 3, 154–71, for a detailed discussion, which can be extended with the arguments given here.

50 See Ishiguro, "Use," 24.

51 Ibid., 32.

52 At this point in MS101, Wittgenstein still makes a distinction between relations and things, a distinction which, we think, in the *Tractatus* has disappeared and is replaced by a general notion of object.

53 Clearly, Wittgenstein's insight that quantified sentences are logical constructs of material sentences goes against Ishiguro's suggestion that languages with names can be replaced by a fully quantified one. In its most radical form, this move leaves the use of quantifiers unclear. Wittgenstein claims that this is possible in 5.526. However, in the *Tractatus* that should be understood as dependent on applied logic which comes with elementary sentences projected onto states of affairs. In MS101, the entry from which 5.526 is taken occurs before his insight that quantification can be reduced to truth-functional combinations of sentences. In the *Tractatus*, this treatment of quantification is refined into (i) truth-functional operators and (ii) the (accidental) generality of a variable occurring as their argument. Here "variables" are sentence variables, i.e. sequences of sentences such as finite enumerations, sentences sharing a form, or sentences generated from a rule. In such sentences, names play a role that cannot be eliminated by quantifiers. What is called "variable" in modern logic is called "variable name" in the *Tractatus*. Cf., 3.312-7 and 4.1272.

The entries make clear that "material" in "material sentences" should be taken quite literally: elementary sentences are states of affairs *used* as sentences and, consequently, the names in such sentences are objects *used* as names. The model of two strictly separated realms with language modelled as reality requires is wrong. The relationship between language and reality is much more subtle than that: language and reality are intrinsically intertwined. That also makes clear why in the *Tractatus* names and objects are logically identical to each other: both are form and content. For objects, cf., 2.02, 2.025, for names (i.e. simple expressions), cf., 3.31. The external properties of names and objects may of course be vastly different. But logically speaking the difference is just in application: one is used to name the other.

That the use of "use" in the last paragraph is indeed justified can be seen as follows. Wittgenstein was quick to realise that identity of logical form among states of affairs may leave sense underdetermined. There should be at least two states of affairs with identical logical form – one for the sign, one for what is signified – but there may be even more. After all, we are dealing with

> [...] the general concept of two complexes of which one can be the logical picture of the other, and so in a certain way *is*. 6.10.14.r

To keep sense determinate – which is the Fregean assumption that shapes much of the *Tractatus*' logic – "use" comes to the rescue. The following entry is crucial in this regard:

> In a sentence something must be identical with its meaning, but the sentence should not be identical with its meaning, so something in it should be different from its meaning. (The sentence is a formation with the logical features of what is represented and with yet other features, which will be arbitrary and different in different sign-languages.) So, there must be different formations with the same logical features; what is represented will be one of them, and it is crucial when representing to distinguish what is represented from other formations with the same logical features (for else the representation will not be univocal). This part of the representation (the naming) must happen now by means of arbitrary determinations. Accordingly, each sentence must have features with meanings that are determined arbitrarily. 22.10.14.r

Indeed, even at this early stage Wittgenstein holds that to attain determinateness the use of signs is crucial, and this in a way that *extends* the context names occur in to make up "propositions which have sense" that Ishiguro considers:[54]

> What if our signs where as indeterminate as the world that they mirror?

> To recognise the sign in the sign one must pay attention to its use.[55] 23.10.14.r

> The point is just that the logical features of what is signified are determined completely by the logical features of the sign and the method of signification. Sign and method of signification *together* must be logically identical with what is signified. 26.10.14.r

Determinate sense is had by logically projecting one part of logical space isomorphically onto another. And, Wittgenstein claims, by nature humans are able to do so even without being aware of all the logical and conventional complexity this involves (4.002).

Thus, we consider Ishiguro's focus on names used in elementary sentences as an important first step but maintain it should be followed by considerations that encompass all of logic. And here, too, an important continuity in Wittgenstein's philosophy can be argued for. Reference of names is always within the broader scope of projecting logical complexes. Extending what has been discussed thus far, we claim that quite generally projection in applied logic is best seen as an intra-logical affair. Wittgenstein's philosophy of logic is introduced from the *Tractatus*' very first theses. The clarification of logic begins with the elementary part that indicates the kind of logical structures that are involved in description. Its initial sequence of theses clarify what common notions as "world," "thing," "state of affairs," "situation," "name," and "sentence" contribute to logic. The book continues to clarify logical complexity, which, when properly compressed and clothed, enables humans to handle the structural intricacies involved in

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54 See Ishiguro, "Use," 24.
55 In 3.326 the first "sign" is refined to "symbol," i.e. that which different signs with the same sense have in common.

our daily language use. But when it comes to sense and truth, in the end it all boils down to truth patterns of elementary structures of which one half is used to logically model the other.

Thus, we strongly disagree with those who ascribe to early Wittgenstein the conception of languages and their logic having to be answerable to reality and who view the later Wittgenstein as reneging on that claim.[56] Logic, like grammar, takes care of itself. The differences, which of course there are, are rather to be found in the numerous simplifying idealisations on which the early logic is based, which later make place for richer families of grammars that, when philosophy calls, "teach us differences."

There is reason to believe that already at the time Wittgenstein was completing the *Tractatus*, he started to sense a tension between rigid logical modelling and everyday meaningful language. We think his suggestion was that we may need to approach the matter not from an absolute but rather from a contextual perspective. In the next sections, we will argue for this position. We do so by staying close to the *Tractatus*' text and by identifying and systematically discussing the various statements concerning use and application that support this contextualised reading.[57]

5 Logic is transcendental and applied

On the reading we propose, the *Tractatus* is not a completely homogeneous text, which presents one, all-encompassing and consistent view on logic, language, and reality. Rather, it is a text in which opposing views are manifested without the tension between the two being made explicit. This is due to a continuous development in Wittgenstein's thinking over the years in which the *Tractatus* was composed.

An illustration. Thesis 2 and its offspring, which can be traced to the inception of the *Tractatus*, suggest an absolute reading, while 5.55 and its offspring, which date from the time of the *Tractatus*' completion, point to a more contextualised view:

> The *application* of logic decides what elementary propositions there are.
> What belongs to its application, logic cannot anticipate.
> It is clear that logic must not clash with its application.
> But logic has to be in contact with its application.
> Therefore logic and its application must not overlap. 5.557

If we take all that are stated prior to this thesis as a specification of the conditions for meaningful language and thought, this should come as a surprise. What Wittgenstein is saying here is that it is practical application, and not some absolute, *a priori* deduction, that determines what are elementary sentences and their meanings.

This raises two questions. First, what kind of application does Wittgenstein have in mind here? Can there be different applications and how different can they be? And second, how does application affect the status of the statements about ontology, meaning, and language that make up the larger part of the text?

5.1 Setting the scene

Some observations. "Logic must not clash with its application:" this can be read as stating that whatever constraints logic imposes, it should *always* be able to meet them. Now, if logic would not impose any constraints, this would be trivially true, but note that Wittgenstein also states that "logic has to be in contact with its application." That seems to indicate that logic does impose constraints. So the key question is how can

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56 Cf., e.g. Hacker, *Insight*; Malcolm, *Nothing*, and more recently, e.g. Johnston, "Symbols." For a detailed evaluation of Malcolm's arguments, cf., Stokhof, *World*, Chapter 3, 171–80.
57 Some observations that are made in what follows can be found in the literature, cf., the discussions above and the references below. However, as far as we know, no comprehensive analysis of all the relevant passages has been given.

we make sense of a logic that constrains but does so in a way that does not preclude any type of application? Here the transcendental nature of logic (6.13) comes to the fore: it defines a framework that has no substantial effect on anything contingent; any application is contingent, and no application is ruled out. Yet logic is "in contact" with application: for it is what defines in the most general sense what application is, it is what makes application possible. Hence Wittgenstein's "Therefore logic and its application must not overlap:" this is indeed what follows from the transcendental nature of logic and the empirical nature of application.[58]

What is crucial to note is what logic does. It supplies concepts and their relations, but in such a way that as far as truth-functionality is concerned nothing follows with regard to concrete instantiations of those concepts. Thus, logic supplies the concept of an elementary sentence, but it puts almost no constraints on what elementary sentences are. That is by and large determined by application. But what is that?

The *Tractatus* does not say much about application. The term occurs eleven times in the text. Six of these refer to the application of an operation to its argument(s) (5.2521, 5.2523, 5.32, 5.5, 6.001, and 6.126), and one is about self-application and the theory of types (6.123). These are clearly not relevant to the meaning of application that is at stake here. That leaves four other occurrences. Two of these concern the application of signs (3.262, 3.5), and the other two are explicitly about the application of logic (5.5521, 5.557). It is these four that we need to draw upon.

Let us first take a look at the two earlier passages, 3.262 and 3.5. These occur in the long discussion on the fundamental properties of linguistic signs, symbols, and meaning that begins in 3.1 and continues to 4, where Wittgenstein starts to discuss the basic logical structure of language. In this context, 3.262 claims:

> What signs fail to express, their application shows. What signs slur over, their application says clearly. 3.262

The point here is that no sign is able to express what makes it meaningful or what its meaning is. What is interesting is that Wittgenstein states that it is not logic but application that comes to the rescue. Of course, the sign itself is unable to state its own logic, i.e. its fundamental properties and its relations to other signs. But it is not logic (as a formal scheme) that supplies that information, rather it is the application of the sign, i.e. how we set up and use a system of signs. Apparently, that is where the actual logic of a sign is determined, not by an ideal, non-applied logic as such.

That application determines the meaningfulness, and the actual meaning, of any form of symbolic representation is further supported by 3.5:

> A propositional sign, applied and thought out, is a thought. 3.5

It is never the symbolic system as such that makes a sign meaningful, rather its meaningfulness depends on the application that we make of it. Cf., in this connection also 2.1, the statement that opens the section of the *Tractatus* that deals with the picture theory: "We picture facts to ourselves." The reference to an animate subject may come as a surprise at that stage in the text; but in view of the essential role that application plays, it makes perfect sense. Further confirmation comes from other passages, such as 3.11:

> We use the perceptible sign of a proposition (spoken or written, etc.) as a projection of a possible situation.
>
> The method of projection is to think of the sense of the proposition. 3.11

Note that both logic and the human element are crucial: logic provides the mould that we use to capture reality (actual or hypothetical), and reality should allow such use. Cf., also 3.341:

> So what is essential in a proposition is what all propositions that can express the same sense have in common.
>
> And similarly, in general, what is essential in a symbol is what all symbols that can serve the same purpose have in common. 3.341

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58 A word of warning: we use the terms "transcendental" and "transcendentality" in an informal, non-technical manner here, roughly, to refer to the pre-conditions that apply to logic. Cf., also the remarks concerning "logic" on page 6. The question whether, and if so how, one can read the *Tractatus* as standing in the Kantian tradition is the subject of a lively discussion in the literature. However, for reasons of space we cannot go into the matter here.

The reference to "purpose" is an implicit reference to the use that we make of signs to application. That is, besides to a criterion of identical sense, 3.341 also refers to the pragmatic criterion of identical purpose as essential for propositions, symbols, and their signs. Apparently, it is a specific use of a sign that ensures that a sign expresses one sense rather than another one.[59]

Of course, these remarks are suggestive rather than definitive. But they do fit a pattern and we feel that they strengthen the interpretation of the later passages, viz., 5.5521 and 5.557, that we argue for. And there are other passages that do not mention "application" but rather talk about "use" that adds further evidence.

The German original has two terms that are commonly translated as "use," viz., "*Gebrauch*" and "*Verwendung.*" The first occurs in 3.326, 4.123, 4.1272, 4.241, and 6.211, and, in the negative, in 3.328. The second occurs in 3.327, 4.013, and 6.1202. The occurrences of these terms in 4.103, 4.123, 4.1272, 4.241, 6.211, and 6.1202 are straightforward and do not relate to the issue that is under discussion here. But the passages 3.326–3.328 are interesting because they tie meaning directly to the use or the employment of a term:

> In order to recognise a symbol by its sign we must observe how it is used with a sense. 3.326

> The sign determines a logical form only together with its logical syntactic application. 3.327

> If a sign is *useless*, it is meaningless. That is the point of Occam's maxim.
> (If everything behaves as if a sign had meaning, then it does have meaning.) 3.328

The symbol and sign that 3.326 refers to is the distinction between a mere orthographic or phonetic object and a meaningful expression. What 3.327 and 3.328 imply is that meaningfulness and use are intrinsically tied: there is no meaning without use, and use is decisive to determine meaning. Again, despite crucial differences, the role of logic in the *Tractatus* has much in common with that of grammar in Wittgenstein's later work.[60]

5.2 Logic and application

The passages just considered provide further support for our interpretation of how logic and application are related. Explicitly, Wittgenstein talks about that in 5.57, with which we started our discussion, and slightly earlier, in 5.5521:

> And if this were not so, how could we apply logic? We might put it in this way: if there would be a logic even if there were no world, how then could there be a logic given that there is a world? 5.5521

In order to understand what the opening remark refers to we have to look at the preceding remark, 5.552:

> The 'experience' that we need in order to understand logic is not that something or other is the state of things, but that something *is*: that, however, is *not* an experience.
>
> Logic is *prior to* every experience – that something *is so*.
>
> It is prior to the question 'How?,' not prior to the question 'What?.' 5.552

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59 Whether that is an adequate analysis is a systematic question that we ignore in this exegetical context. Cf., e.g. Soames, "Propositions," for extensive argument that it is not. We do note that Soames' analysis has an individualistic–cognitive flavour that certainly does not sit well with the continuity of the later work that we want to emphasise. Hacker, "Naming," also discusses the issue, in support of the view (shared also by Malcolm) that it is the world, and not logic and its application, that dictates the terms of meaningfulness. As we have already argued above, we see ample reason not to read the *Tractatus* in this way.

60 Cf., Conant, "Meaning," for a similar take on this, from the perspective of the later work, in particular Wittgenstein's confrontation with scepticism in *On Certainty*; cf., also Livingston, "Meaning."

What Wittgenstein is saying here is that in a specific way logic is dependent on reality: not on any contingent feature of it but on their being reality to begin with. To put it bluntly: logic exists only because there is reality. So even though logic is not tied to any specific way the world is, its *raison d'être* is the pure existence of reality: it can be any world but there must be *a* world. The transcendental conditions that logic formulates cannot be *not* met.[61]

The justification for the claim made in 5.552 is provided in 5.5521: the relationship between logic and the world, which is a relationship of application, necessitates that logic and reality are bound together in this specific way. For if logic could exist without reality, then its very essence would have nothing to do with reality. But it is only due to its essence that logic can be applied, so this essence has to rest on a relationship with reality. And that relationship is that of applicability; without application logic loses its point.

All this can still be read as somehow neutral with respect to the nature of the dependency between logic and reality. But 5.557 is explicit about that: it is application that determines the substance of logic, i.e. application tells us how logic is put to use. By itself, i.e. outside the context of application, logic can state only very general conditions that fall short of specifying what is needed for concrete application. So logic is not self-applying, it needs to be applied in a context, and that means that we need to set the terms.[62]

Read in this way, 5.557 (repeated here for convenience) and 5.5571 make explicit what was implicit in the other remarks on use and application:

> The *application* of logic decides what elementary propositions there are.
> What belongs to its application, logic cannot anticipate.
> It is clear that logic must not clash with its application.
> But logic has to be in contact with its application.
> Therefore logic and its application must not overlap. 5.557
>
> If I cannot say a priori what elementary propositions there are, then the attempt to do so must lead to obvious nonsense. 5.5571

What is interesting to note is that Wittgenstein makes the point in terms of language, not ontology. What is at stake is what elementary sentences are, not states of affairs *simpliciter*. The two are logically linked, of course, as language and ontology are throughout the *Tractatus*. But apparently from the perspective of application the focus is on language, and ontology is certainly not *sui generis*.

And this makes sense. Application of logic is something we do, and we do so in the first instance through the language that we bring to bear on the phenomena that we want to analyse. To a certain extent we can decide what that language will look like, setting up the vocabulary and the grammar, and employing the resulting expressions in particular ways.

5.3 The human context

Now that we have argued for the centrality of application, we turn to context how does application support a contextual reading of logic's transcendentality? The very wording seems an oxymoron: how can what is necessary be read in terms of what is changing and contingent?

Let us start with contextuality. Although there is limited support for this in the text of the *Tractatus*, we think it makes sense to think of application in the context of logic, or in the context of signs, in a concrete manner. Application is the actual application that we make of signs, be they the words and phrases of a

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61 Friedlander, "Ladder," 53, interprets 5.552 in terms of the distinction between objects and facts: "[...] the what, or the form of objects, and [to] the how, the structure of facts." However, we do not think it is clear that this distinction is at work here. We would hold that the "what?" in 5.552 concerns "pure" content which allows logic to be substantiated and should be distinguished from the logical scheme. This is different from objects, as objects only occur within a specific application of logic. And this is also why, strictly speaking, it cannot be experienced as such.

62 The observation that our concepts and our language are not self-applying is of course a familiar theme from the later work, cf., e.g. the "cube"-argumentation in *Philosophical Investigations*, 138 ff.

natural language, the signs that make up formal languages of logic and mathematics, or the elements of some other symbolic system. With that actuality and concreteness come contextuality. For not every application is the same, not every language that we use serves the same purpose.

In some contexts, it makes sense to disregard certain structural features whereas in others these features are relevant and hence necessitate a different take on complexity. In fact, the wealth of formal languages that we have developed in the course of our history, each of them fine-tuned to tackle a particular set of problems or phenomena, testifies to the intrinsic contextuality of the core concepts involved. There is no fixed, *a priori* established set of elementary sentences. It is our application that decides what to treat as such, depending on the context in which we apply logic.

We think that the key to a proper view on the relationship between the necessity of logical transcendentality and the contingency of application is contained in Wittgenstein's statement in 5.57: "What belongs to its application, logic cannot anticipate." This is because the two do not operate on the same level: there can be no clash between necessity and contingency, precisely because we are dealing with necessity that is of a transcendental nature.

The transcendental nature of logic resides in the constraints, or norms, it formulates on any application: that there be names, elementary sentences, and truth-functional operations that generate complex meaningful expressions; that there be objects, states of affairs, situations; and that these be linked by the relation of picturing, i.e. by means of the relationship between names and objects and identity of logical form. That is what is necessary, and that is what can be established *a priori*.

On this view, what are elementary sentences, and all that follows from that, can be determined only when we have access to a concrete context of application. It is how *we* use the concepts that logic provides, what *we* deem a useful and meaningful application of them in context, that determines what are elementary sentences. And that can be established only *a posteriori* by looking at the concrete context of application.

5.4 Logical scheme and instantiation

How should the *Tractatus* be read then? On first sight, it appears that Wittgenstein develops an integrated scheme of language and ontology that can be read as a metaphysical specification of a number of concepts and the principles that connect them in an abstract, yet substantial way. However, from the current perspective, what the *Tractatus* has to say about language and ontology is not itself an applied instantiation but a clarification of the logical scheme that each and every concrete application must adhere to.

This is in many ways akin to how Wittgenstein describes the status of Newtonian mechanics in 6.341 ff.[63] The opening passage of 6.341 introduces the core idea:

> Newtonian mechanics [...] imposes a unified form on the description of the world. Let us imagine a white surface with irregular black spots on it. We then say that whatever kind of picture these make, I can always approximate as closely as I wish to the description of it by covering the surface with a sufficiently fine square mesh, and then saying of every square whether it is black or white. In this way I shall have imposed a unified form on the description of the surface. 6.341

This passage illustrates Wittgenstein's conception of logic's transcendentality clearly. A set of logical concepts and principles determines logical forms, but it does not determine the content or instantiation of these logical forms. It specifies conditions of possibility of content. What concrete description we will give will depend on the level of accuracy we want to achieve. But any such description will be of the same form, which is given by the logical scheme. The same point is made in 6.342:

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63 Ruiz Abánades, in "Uso," also mentions the statements on Newtonian mechanics in the context of his discussion of use in the *Tractatus*.

> [...] The possibility of describing a picture like the one mentioned above with a net of a given form tells us *nothing* about the picture. (For that is true of all such pictures.) But what *does* characterise the picture is that it can be described *completely* by a particular net with a *particular* size of mesh.

> Similarly the possibility of describing the world by means of Newtonian mechanics tells us nothing about the world: but what does tell us something about it is the precise *way* in which it is possible to describe it by these means. We are also told something about the world by the fact that it can be described more simply with one system of mechanics than with another. 6.342

That the world can be described by a particular scheme underdetermines what the world actually is like. However, it does say something about the world: it reveals some of its formal but none of its material properties.

In the case of physics, no theoretical framework can claim necessity: there is an element of arbitrariness in the form that a framework specifies:

> [...] The form is optional, since I could have achieved the same result by using a net with a triangular or hexagonal mesh. Possibly the use of a triangular mesh would have made the description simpler: that is to say, it might be that we could describe the surface more accurately with a coarse triangular mesh than with a fine square mesh (or conversely), and so on. The different nets correspond to different systems for describing the world. [...] 6.341

This distinguishes the case of physics from that of logic. It is generally assumed that for Wittgenstein logic, unlike physics, is absolute, i.e. does not allow for alternatives and hence lacks the kind of arbitrariness that is inherent in a framework of physics, such as Newtonian mechanics. The difference between logic and physics is also addressed in the opening remark of 6.342:

> And now we can see the relative position of logic and mechanics. (The net might also consist of more than one kind of mesh: e.g., we could use both triangles and hexagons.) 6.342

The parenthetical remark characterises physics as relative, and apparently this is to be understood as the difference between logic and physics, as especially the non-elementary, truth-functional part of logic allows no such variants. This is the part of logic that "must take care of itself" (5.473). However, that logic and physics differ in this respect does not mean that the relationship between a framework and the use that we make of it, its application, should be absolute. As Wittgenstein describes in the last part of 6.341, it basically works in the same way:

> [...] Mechanics determines one form of description of the world by saying that all propositions used in the description of the world must be obtained in a given way from a given set of propositions – the axioms of mechanics. It thus supplies the bricks for building the edifice of science, and it says, 'Any building that you want to erect, whatever it may be, must somehow be constructed with these bricks, and with these alone.'

> (Just as with the number-system we must be able to write down any number we wish, so with the system of mechanics we must be able to write down any proposition of physics that we wish.) 6.341

If we apply this to the case of logic and language, the thing to note is that the "bricks" are not concrete elementary sentences. What counts is their being elementary, i.e. their having a specific form and also the way in which they can be combined into truth-functional complexes. The actual bricks need to come from elsewhere, but any building needs to be constructed from bricks, i.e. it needs to use building materials in specified ways. The parenthetical remark on numbers makes the same point. This reading receives further support from the following remark:

> We ought not to forget that any description of the world by means of mechanics will be of the completely general kind. For example, it will never mention *particular* point-masses: it will only talk about *any point-masses whatsoever*. 6.3432

The same can be said of the *Tractatus*' logical scheme of language and ontology: examples of names and objects are never given, and it suffices to assume that there are such, and up to a certain point we are free to choose what we will regard as such. The scheme provides just enough constraints to be able to answer the question: How is meaningful language possible?

6 Detailing the logical scheme

Having argued for the prominence in the *Tractatus* of application and human context, we now need to discuss in more detail the tension between Wittgenstein's philosophy as concerning our daily life and daily language and the *Tractatus*' abstract views on logic and determinate sense. This should help us to achieve more clarity on what is to be included as part of the logical scheme and what not.

Although "logic should not clash with its application" (5.551), with hindsight it is also clear that the core of the logical scheme – atomicity and bipolar truth-functionality – puts constraints on the descriptive abilities of our language that are often impossible to realise. Wittgenstein's requirement that sense be determinate and specifiable in terms of logically independent elementary sentences does not combine with the mutually exclusive nature of certain forms of description.

In natural language, stating that one in a certain range of options holds, often excludes the other options in that range. Space, time, and colour are prime examples but for sure not the only ones. As it seems impossible to reduce the exclusion properties of such ranges to truth-functionality, the *Tractatus* leaves no other choice than to take them as properties of the elementary, but this clashes with elementary independence.[64]

This appears to be at odds with the suggestion that philosophy is applicable and applied in a human context. We trace the problem to the assumption that sense must be determinate and prior to truth, which involves untenable idealisations. However, we will argue that some of the frictions can be resolved in what we call "contextualised holism."

6.1 Determinate sense and logical modelling

That sense be determinate is stated clearly in 4.023:

> Reality must be fixed by a sentence to either 'yes' or 'no.'
> To do so, it must describe reality fully.
> A sentence is a *description* of a state of affairs. 4.023

The principle is inherited from Frege but is used here in a novel way. We read 4.023 as stating that somehow a sentence describing a state of affairs must already be logically in order: there must be a bedrock where no further refinement is possible. At this point, it becomes clear how a sentence and its use fixes reality to either "yes" or "no."[65]

Determinate sense is at the heart of Wittgenstein's claim that truth-functionality captures the general form of sentences, and this is where the core of the logical scheme is located:

> That there is a general sentential form is proved through the impossibility of there being sentences whose form we could not have foreseen (that is: constructed). The general form of propositions is: the facts are so and so. 4.5

The general form indicated in 4.5 is a loose way to phrase the main characteristic of truth-functionality, which is captured more precisely in 6. Wittgenstein's contention that this rudimentary logical form suffices

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64 In the middle period, Wittgenstein often uses the ruler as a prototype of the exclusion phenomenon: one length excludes all others; 2.1512 and 2.15121 also use this imagery, interestingly without mentioning exclusion.

65 Another reading of 4.023 takes "reality" literally, so that each sentence would involve a (mostly hidden) maximal consistent description of a possible world. As this reading would rob, e.g. 5.135 of any application and has other, more absurd consequences, we stick to the modest interpretation based on 4.023c.
Notice that Wittgenstein's terminology in 4.023 seems a bit sloppy, for in general sentences describe situations ("*Sachlagen*") involving possible realisation patterns of different states of affairs, not states of affairs *simpliciter*, i.e. the smallest parts of reality that can be described by means of elementary sentences. Cf., Van der Does, *Silence*, Section 7.2, for details.

is based on some clever reductions that eliminate the need to consider identities, the most common quantificational forms, and even intensional contexts. Or so it seemed at the time.[66]

Given what we have noted earlier on application and use, it is interesting to see that to arrive at general form Wittgenstein argues from the constructive nature of language, not from a realistic ontology. One does wonder how the argument goes; cf., the great variety in views on abstract constructions. What is important for now, however, is that early Wittgenstein states that the sense of a sentence can always be modelled as a truth table, which in the *Tractatus* is a sign that in use shows its sense. It is not a language-independent semantical object like a Fregean truth value. A truth table is based on enumerating all truth possibilities of its elementary content (sentences). Such enumerations force elementary sentences to be logically independent of each other, or else certain truth possibilities of a truth table may have to be excluded for non-truth-functional reasons. This would introduce non-truth-functional forms of necessity, contra the *Tractatus*' claim truth-functional necessity is the only form of necessity (6.37).[67] It is in this way that logic frames the overall shape of ontology.

Wittgenstein's emphasis on a unique general form of sentences comes with logical independence at the elementary level, and so seems to hamper a straightforward application of his philosophy to sentences used in daily life. And it is not the only obstacle, for a similar logical radicalisation is found at the sub-sentential level.

6.2 Sense as a projected logical model

To clarify how sense can be determinate and prior to truth, Wittgenstein compares the sense of a sentence with a logical picture, or in the *Tractatus*' alternative terminology: a logical model (2.12, 4.01). In such a model "its elements are related to one another in a determinate way" (2.141). These objects have a double role: they allow us to abstract regularities across sentences and what they describe, and they ensure logical analysis is well founded, i.e. comes to an end.

Our daily sentences often compress and conceal how, if at all, they fit the sub-sentential aspect of the logical scheme, since they are constructed for ease of use rather than for philosophical clarity. Indeed, that the overt form of our common language may deviate from its logical form is held to be a main source of philosophical confusion. To eliminate such confusion, we analyse the forms of language use that seem to mislead us, and we do this with activities and tools that help us to clarify which sense is expressed or to show why the language analysed does not have meaning.

The *Tractatus*' focus is hardly on the process of analysis but more on its outcome: either we exhibit the sense of a sentence as a projected truth-table sign or we give sufficient indication that no sense is forthcoming, as projection of, or reduction to a truth-table sign fails. The process of analysis comes in different stages in which we apply definitions and notations to exhibit the sign and its projection step by step.

Whatever the nature of analysis may be, it is crucial that it hits rock-bottom. The *Tractatus* introduces substance to cater for this in a way that leaves sense independent of, even logically prior to truth. To determine whether a meaningful sentence is true or false, its sense should project its logical model onto what it purports to describe. Substance is non-composite and unchanging, and so ensures that the analysis of meaningful sentences comes to an end.

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66 Natural language has several aspects that seem hard to come by in the *Tractatus*' logical scheme. Cases in point might be generalised forms of quantification or the analysis of intentional constructions in language. As to the latter, Wittgenstein held only logic to be necessary, and we should also recall Frege's even stronger dismissal of modalities from logic. We do well to remember that the historical context in which the *Tractatus* was conceived and written is partly responsible for the content of the *Tractatus*' logical scheme. With regard to truth-functionality, for example, there is an obvious link with the works of both Frege and Russell.
67 In Wittgenstein, "Remarks," truth tables are considered that omit certain truth possibilities, which suggests Wittgenstein did not expect anything problematic at the time of the *Tractatus*.

> Objects make up the substance of the world. That is why they cannot be composite. 2.021

> If the world had no substance, then whether a proposition had sense would depend on whether another proposition was true. 2.0211

> In that case we could not sketch any picture of the world (true or false). 2.0212

Logical modelling as a universal characteristic of sense comes with the claim that everything which can be described can be so modelled. Objects are at the core of our models. However, in the final analysis these objects may not be of the kind that furnish our daily surroundings. First and foremost Tractarian objects are content and form (2.025). That is, an object is an instantiation of a certain way in which it may combine with other objects to form part of the complete configuration of a state of affairs (2.01, 2.0141). These barren objects are not in space or time and have no colour or other material or sensory properties. Their forms rather seem to constitute space, time, colour, and the like (2.0232, 2.0251):

> The substance of the world *can* only determine a form, and not any material properties. For it is only by means of sentences that material properties are represented – only by the configuration of objects that they are produced. 2.0231

Since spatial, temporal, chromatic, material, and sensory properties are interdependent – the realisation of one excludes others – one would expect the configurations inducing these aspects to be interdependent. That is, even though the elementary sentences describing the states of affairs must be logically independent, the states of affairs described need not be "ontologically" independent of each other. However, as we know, ontology exhibits the independence that logic requires.

> States of affairs are independent of one another. 2.061

> From the existence or non-existence of one state of affairs it is impossible to infer the existence or non-existence of another. 2.062

As we have argued earlier, e.g. in Sections 3.2 and 4.2, we take this as a clear indication that language and its ontology are intra-logically related. As became clear only later, having ontology comply with logical independence at its elementary level engenders a tension that often hampers applicability of the tractarian system in more mundane settings. Again, a radical consequence surfaces of assuming sense to be a fully determinate affair, especially when combined with an idealised notion of sense as logical model.

7 Further frictions of applied ideals

Determinate sense comes with the logical radicalisation of perfect analyses that result in "pure" truth-functional complexes of "pure," logic-less configurations of utterly simple objects. Now, even if we were confident that our analysis may normally remain high level, since some general insights would ensure us that a "purely" logical foundation can always be attained, the need for such a foundation is philosophically troublesome. With a view to the open character of elementary sentences that 5.55 and its offspring promote, "pure" logical entities that do not resemble objects in our immediate context the least bit induce some quite pressing questions:

> *q1* What human ability is early Wittgenstein committed to that enables logico-linguistic analysis or construction?

> *q2* How are language and ontology related for such an open notion of elementary sentence to be possible?

> *q3* What tools do humans have to clarify the nature of language and ontology? Do we discover this nature or do we construct it?

We will now address these questions in order to further detail and confirm the contextual reading of transcendentality that we argue for.

Q1: A hidden life of language?

Applied logic is at the heart of the *Tractatus* and so is its assumption of determinate sense. To what extent can such a philosophy still be called human?

This is a good point to remind ourselves that at the time the *Tractatus* was conceived, the apparent gap between daily use and idealised logical analysis still seemed bridgeable. Wittgenstein must have convinced himself that what appears nebulous in everyday language, somehow can always be analysed in the finest determinate detail. Such confidence grants the radical, logical abstractions of elementary sentence and state of affairs, of name and object rather the status of "regulative ideas," which only need to be attained if deep philosophical confusion requires it.[68] Then, as 3.1431 suggests, it is quite natural to expect that under normal circumstances, an analysis in terms of our common context suffices.

Still, if at its highest resolution language may come with enormous complexity, one does wonder how its use comes off the ground. An indication is given in 4.002:

> Man possesses the ability to construct languages capable of expressing every sense, without having any idea how each word has meaning or what its meaning is – just as people speak without knowing how the individual sounds are produced.
>
> Everyday language is a part of the human organism and is no less complicated than it.
>
> It is not humanly possible to gather immediately from it what the logic of language is.
>
> Language disguises thought. So much so, that from the outward form of the clothing it is impossible to infer the form of the thought beneath it, because the outward form of the clothing is not designed to reveal the form of the body, but for entirely different purposes.
>
> The tacit conventions on which the understanding of everyday language depends are enormously complicated. 4.002

Although the use of language is presented as a human ability, much of its workings is presented as concealed and hidden. Why? Some of the observations in 4.002 hold unaltered for Wittgenstein's later philosophy; e.g. that the tacit conventions on which the use of everyday language depends can be complicated, or that it need not be humanly possible to gather *immediately* from everyday language what its logic (or later: its grammar) is.[69] It requires a perspicuous representation, which in the later work can take on a multitude of appearances, but in the early work should always confirm to one and the same logical scheme. That the complex structure of language is often hidden, is characteristic only of the early work, and seems mainly due to its unrealistic assumption of determinate sense. The sources of concealment are logical modelling and its idealised notions of object and structure, which force a gap between everyday language and the purported models of its meaning.

There is no need to give an indication of the human abilities that 4.002 intimates, for details are philosophically irrelevant. In Wittgenstein's later work, such abilities are part of the forms of life in which language is used. What we should note, though, is that in the *Tractatus* they are non-material, ineffable features of language creation and use:

> What signs fail to express, their application shows. What signs slur over, their application says clearly. 3.262

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[68] We use "regulative idea" in a way that is only loosely related to Kant's. Here regulative ideas indicate a unity in the notions of sentence and sense, name and object, etc. which cannot be described in specific meaningful uses of sentences or names. Regulative ideas are purely formal, conceptual abstractions indicating that which enables and must be embodied in the ways we give sentences sense. Still all talk of regulative ideas should be reducible to specific uses of sentence tokens in which the idea is shown; there is no way to phrase regulative ideas in ways that are not so reducible. We think Wittgenstein introduces formal concepts to this and related ends. Cf., 4.122 and the theses in its vicinity.

[69] A similar point is made in Friedlander, "Ladder." He analyses the reference to the "human organism" as part of an intricate analysis of the role of existence in the *Tractatus*. Friedlander (cf., also Friedlander, "Logic") constructs a more or less continuous relation with its ethical aspects, akin in some ways to the "logical mysticism" in McGuinness, "Mysticism." Cf., Stokhof, *World*, for a different interpretation of how the logico-linguistic aspects of the *Tractatus*-framework and Wittgenstein's views on ethics are related. Unfortunately, space does not permit us to go into a detailed comparison here.

Q2: A merge of language and ontology?

It has often been observed that the *Tractatus*' opening remarks on ontology are infused with observations on logic or language: cf., 1.13, 2.012, 2.0121, 2.0122, and 2.0201. Conversely, remarks on picturing or language are mixed with comments on ontology: cf., 2.1, 2.141, 2.16, 3.14, 3.142, and 3.1431. To us this suggests that language and ontology are intertwined and even intra-logically related. What strengthens this suggestion is that at the elementary level language and ontology must be isomorphic to each other. Cf., 4.26 and 5.53:

> The specification of all true elementary sentences describes the world completely. The world is completely described by the specification of all elementary sentences plus the specification, which of them are true and which false. 4.26

> Identity of object I express by identity of sign, and not by means of an equal sign. Difference of objects by difference of signs. 5.53

These remarks imply that elementary language and ontology are identical qua form and only differ in instantiation. However, 4.26 ensures that all names have a reference, and 5.53 ensures that this reference is unique. If so, the projection of elementary sentences onto the states of affairs they describe must be an isomorphism. The idea of an isomorphism, which we think originates in the requirement that sense be determinate, also tallies seamlessly with the fact that the *Tractatus* maintains that the essentials of names and objects as well as those of elementary sentences and states of affairs are identical.

At this point, we should wonder how these claims combine with Wittgenstein's even stronger claim that linguistic and ontological entities are of the same category. That the *Tractatus* claims this is not uncontested. A reading which attributes a substantial ontology to the *Tractatus* often comes with a strict separation of world and language, so that the latter can be held answerable to the first. By contrast, as we have already argued for in Section 4.2, we read the Tractatus as presenting world and the signs of language logically as of one kind.

The justification for this is that sentence signs, and pictures in general, are facts, just as what they describe or model (2.141 and 3.14). These statements convey first and foremost that both language and ontology must be structured: sets of names or things lack the structure that is needed to express sense. Second, they indicate an early move away from mentalism and toward the world in which language is used. The crux here is the identification of thoughts with meaningful sentences (4). On our view, the world instantiates the logical scheme. Meaning comes from logically projecting one part of the world, taken as the elementary part of a logical model, onto another part of the world that which is so modelled.

Again, with meaning being a worldly matter does this mean ontology comes first, language second? No. Sections 6.1 and 6.2 already strongly suggest that the highly abstract nature of states of affairs and their objects, with characteristics far out of the ordinary, derives from applied logic, not *vice versa*. On our reading of the *Tractatus*, the application of logic is most basic: its logical space of possibilities is a precondition for language and ontology. According to the *Tractatus* humans can sense that something *is* regardless of *how* it is (6.44).[70] This "experience" is at the heart of our ability to apply logic and thus to construct meaningful languages (5.552, 4.002). Strictly speaking, the direct confrontation with being is *not* an experience, it is part of the human ability to cast logical nets on what there is (5.511). Yet all descriptions are embedded in logic: a formal logical scheme, the use of which puts no substantial restrictions on what is or what is not the case.[71]

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[70] For convenience, we restrict our attention to human beings, but tacitly always allow for a broader class of capable sentient beings.

[71] In the *Tractatus*, the application of logic is fundamental. We think a realistic (human independent) reading faces the following challenge. Logical space must allow for a partition in two isomorphic halves, but such partitions need not be unique. If not unique, the projection of one half on the other, which is at the heart of Wittgenstein's notion of determinate sense, remains indeterminate. Pragmatic means can restore determinate sense – by the use of one projection instead of any other – but at the price of introducing a non-realistic (human dependent) element. Cf., Section 4.2 for details.

Of course, in many ways language and the world it describes are different, but according to the *Tractatus* the differences concern their external, not their internal properties.

At first blush, the signs of elementary sentences and the states of affairs they describe appear totally different. But these differences mask an essential identity: we manage to wrap and compress logical models in signs that are convenient to use. As far as showing sense is concerned, the wrapping and compressing are inessential. When philosophical problems force use to unwrap and uncompress a sentence, we should be able to show the forms of its elementary sentences to be the same as the states of affairs they depict; they differ in "bare" bits of substance but instantiate identical forms. In case this cannot be done, the problem is resolved and leaves the insight of a completed philosophical therapy.[72]

Q3: An open logical toolbox?

According to the *Tractatus*, philosophical problems incite us to analyse our language, in order to make logical structure explicit. Let us now turn to the third question posed and try to get more clarity on the nature of the tools that we have at our disposal to do this. One may be inclined to think it is "just" truth-functional logic, perhaps finite, perhaps infinitary. We think this is incorrect if "logic" is taken in the sense of modern logic, for that has inherited too much from Frege to be counted as tractarian.

Several conventions and definitions can be used that allow us to model the sense of a sentence as a truth-table sign, i.e. as a sign that is projected 1-to-1 onto the states of affairs corresponding with the elementary signs it contains.[73] Is this all? No.

For what is the aim of analysis? Based on the fixed truth-functional character of an otherwise quite open scheme, we *construct* our logic so that clarity is achieved. That is, for the puzzling, unanalysed sentences, *we* make clear which parts are pure logic, which parts carry sense (and show how), and which parts are gibberish (and show why). We cannot get around the logical scheme, but within its boundaries, *we* let our tools show what has sense and what dissolves into nonsense. The *Tractatus* offers no independent arbiter that decides this for us.

Let us be more precise on what the *Tractatus*' logical toolbox has to offer. Its tools come in five categories: sentences, names, expressions, variables, and operations.

Sentences are bipolar, complete configurations of names, or logical complexes thereof. They can be used to describe the world, which they fix to either "yes" or "no." The bipolarity of sentences is the static core of the logical scheme, a scheme which in almost all other respects is quite open.

Names are incomplete and can only contribute to sense in the context of a sentence (3.3). They provide the content and non-truth-functional form of sentences, which via projection enables sentences to model situations in the world; i.e. realisation patterns of elementary logical structures that in the logical scheme are called "state of affairs." Apart from stating that names are simple and implying that as simple expressions they have form and content, the *Tractatus* leaves their further specification open. This is deliberate.

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[72] Until now we have only considered the elementary level. With complex forms, some further differences between language and its ontology may arise. The ontology of language can be restricted to states of affairs realisable independently from each other. By contrast, in language, elementary sentences can be combined in purely formal logical complexes that model situations, i.e. different ways in which the states of affairs that a complex model is projected onto can be realised. These signs help human beings to (i) distinguish "purely" logical forms from material description, (ii) show how sentences are logically related, and (iii) abstract the so-called "formal concepts" from these complexes, concepts that exhibit a shared form. Still, as far as description goes, this added complexity is to a certain extent a pragmatic convenience. If humans were only able to use lists of literals, as in 4.26 – i.e. elementary sentences or negations thereof – for all descriptive purposes that basic language would do. It is worth to observe this simple language still leaves the operation of negation as a basis for arithmetic; cf., 6.02 and its offspring. For details, cf., Van der Does, *Silence*.

[73] Strictly speaking meaningful signs should be "normalised" in order to eliminate logically redundant parts. Cf., 4.465 and footnote 20.

They can be Russellian relational (as the examples in the *Tractatus* are), but they can also be Fregean functional, or connected-graph-like or have whatever form that suits the purpose of their application.[74]

Somehow bounded by the totality of objects, the types are for us to specify when applying and refining the logical scheme in a process of elucidation:

> There cannot be a hierarchy of the forms of elementary propositions. We can foresee only what we ourselves construct. 5.556

Expressions are (possibly incomplete) configurations of names, which can be used to highlight that different sentences have a form in common. The category is as open as that of names. Which sub-configuration can be considered an expression does not seem to be fixed in advance; this, too, is to be decided in the process of clarification. Expressions help to abstract tractarian variables. Variables correspond to formal concepts; they are sequences of sentences that highlight a shared logical form.

Operators, finally, are rules that transform truth-functional signs into a truth-functional sign or transform variables into sentence signs. Wittgenstein only names the operator *N*, which elegantly captures the truth-functional essence of transcendentality.

All that is a toolbox. It is not an end result, but our starting point; it provides the means to our ends:

> Now we understand our feeling: we have a correct logical point of view, as soon as everything in our sign-language is all right. 4.1213

Indeed, "our feeling," "we," "our sign-language"; the tractarian philosophical tools are as human as they can get.

8 Contextualised holism

On our interpretation, the totality of elementary sentences is not fixed once and for all: it depends on a context of application. As we have noted, with regard to application there is a strong tension in the *Tractatus* between an absolutistic and a contextual approach. Its contextual aspects are elaborated, e.g. in 5.55 ff., which were added at a later stage in the writing of the text. The remarks at the beginning of the book, which were added at an early stage, rather suggest an absolute totality of language and ontology. Cf.:

> It is obvious that an imagined world, however different it may be from the real one, must have something – a form – in common with it. 2.022
>
> Objects are just what constitute this unalterable form. 2.023

The question then is whether there is a way to relieve the tension between absolute and contextual.

To begin with, it is worth observing that in an atomistic framework it would suffice to have substance as a fixed totality of structureless contents, which instantiate forms that are given with a certain use. As 4.002 suggests that use is a (possibly hidden) transcendental aspect of language creation. On that approach, object content is imbued with form in the application of logic, without this making truth logically prior to sense. Elementary facts concern combinations of objects that have form, not objects *simpliciter*; objects must have form for facts and sense to be possible.

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74 This observation has some bearing on the question to what extent the logic of the *Tractatus* is of higher order. The order of a logic is determined with the help of the constituent quantified over in the (finite) tree-like structure of its elementary parts. What remains of such order, if these parts are, e.g. connected graphs? Prior to analysis, we cannot specify which elementary sentences there are, and so it must lead to nonsense trying to specify such typing *a priori* (5.5571); cf., Johnston, "Objects." Independently, Van der Does, *Silence*, Chapter 2, came to a similar conclusion but via a more formal route. In line with his realistic assumption (cf., also Johnston, "Symbols"), Johnston argues that this is a matter of discovery, rather than construction. Here we disagree.

Taking the content of substance as absolute but not its form, gets some support from 3.327, which, via isomorphism, indicates that form is dependent on a notion of application:

> The sign determines a logical form only together with its logical syntactic application. 3.327

Substance as content that attains form in application does indeed help to reconcile the absolutistic streak of the *Tractatus* with its more contextual features:

> Clearly we have some concept of elementary propositions quite apart from their particular logical forms.
>
> But when there is a system by which we can create symbols, the system is what is important for logic and not the individual symbols.
>
> And how would it be possible that I should have to deal with forms in logic which I can invent? What I have to deal with must be that which makes it possible for me to invent them. 5.555
>
> There cannot be a hierarchy of the forms of elementary propositions. We can foresee only what we ourselves construct. 5.556

For sure our ability to construct languages would be restricted too much if a fixed form was assumed that encompasses all possible configurations of substance. Such form would introduce a tension with the creative tendencies pervading the *Tractatus* that borders on contradiction. Rather, as 3.1431 suggests, the notion of object should best be considered as a regulative idea that can be bypassed in favour of using the mundane objects that furnish our everyday surroundings.

On the current proposal the *Tractatus* is absolutistic and atomistic when it comes to truth-functionality but is contextual and holistic in other respects. In the same way as the whole world changes with an altered ethical stance (6.43), so, too, the totality of the elementary changes *in toto* with application within the degrees of freedom the logical scheme leaves. Then the presentation of the totality at the beginning of the *Tractatus*, which, except for the statement of a unique form, is given in an abstract and open manner, can be seen as a reflection on the "world as I found it" (5.631) with a language that has already been created. This language and its ontology are based on a logical scheme that is holistic but only partly absolute. Similar kinds of holism survive into the middle period and later long after the *Tractatus*' logical scheme has collapsed. On our view this "contextualised holism" is already present in the *Tractatus*. That holism can be combined consistently with contextualism seems obvious. Changes in elementary sentences can remain local. A current situation can be seen in the midst of other situations or against the backdrop of the world as a whole. Holism just requires the system as such, each instantiation of the scheme, to remain intact.[75]

We think that the friction between absolutism and limited forms of contextualism in the *Tractatus* is a first sign of what is to come later: the rejection of sense as a structure that complies with a universal logical scheme. The absolutism of the *Tractatus* reflects the idea that philosophical problems require an analysis and refinement of our language, so as to show a logical structure at a rock bottom of ideal simplicity. Yet in the end such a philosophy of language leaves the holistic model of sense that the *Tractatus* offers a mystery. For one, it makes Wittgenstein present humans as being able to build languages without requiring them to see how the fine structure of sense comes about (4.002). He seems to have convinced himself that bare substance as the basis of logical modelling would somehow provide for everyday objects and their inter-relationships, too, and with that a ground for our more pragmatic abilities. *Quod non*, as an array of exclusion problems made him aware a decade later. But when the problem (re)surfaced, it paved the way for an even richer philosophy in which humans create sense out in the open, using signs developed in the myriad of contexts in which they live.[76]

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75 So, *in nuce*, the pragmatic holism that Stern (cf., Stern, "Middle") discerns in the later work can be found already in the *Tractatus*.

76 We would like to thank the reviewers for their comments, which helped us improve the content and clarity of this article. Of course, all remaining inaccuracies and unclarities remain our responsibility.

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