The Number of Things in the World and the Autonomy of Logic

Anderson Nakano
PUC-SP

In a recent book, Engelmann (2021) has put forward a reading of the *Tractatus* which he maintains would remove the difficulties presented in other readings, particularly the "meta-physical" and the "resolute" readings. According to Engelmann, these readings do not satisfy all the requirements one can reasonably expect from a reading of the book[1]. In this paper, my concern will be with Engelmann's criticism of the metaphysical readings of the *Tractatus*. Although no explicit definition of metaphysical readings is offered in Engelmann's book[2], I think it is fair to say that he would accept to call "metaphysical" any reading that interprets the initial remarks of the *Tractatus* (1 to 2.063) as offering the general traits of an ontology understood as giving a common form to any possible (i.e., thinkable, imaginable) world. This is, of course, what is *prima facie* stated in passages such as 2.022-2.023: "Es ist offenbar, dass auch eine von der wirklichen noch so verschieden gedachte Welt Etwas – eine Form – mit der wirklichen gemein haben muss. / Diese feste Form besteht eben aus den Gegenständen"[3]. Since Engelmann does not wish to interpret these aphorisms "resolutely" as a kind of illusion that would be dispelled when the reader reaches the end of the *Tractatus* and understands its author, he is obliged to offer an alternative reading to them. In his interpretation, what Wittgenstein is saying in passages such as these is not that there is a collection of objects that would determine all possibilities of states of affairs, but instead that all possible worlds have objects. What is fixed and not subject to change, Engelmann tells us, "is not a specific set of objects, but the existence of objects" (2021: 32). This seems a clearly unnatural reading of 2.023, which mentions "den Gegenständen", not "der Existenz von Gegenständen". Be that as it may, Engelmann argues that the "natural" read-

---

1   Engelmann mentions explicitly five such requirements (2021: 18): i) we must explain how and why the book is not "self-defeating" or "paradoxical"; ii) we must explain how and to what extent the *Tractatus* could indeed end metaphysics, since he claimed to have solved "in essentials" the problems of philosophy; iii) we must explain how the imperative of silence presented in TLP 7 relates to TLP 6 and 6.n, which drives us to it; iv) 2.0, where the so-called "ontology" of the Tractatus is presented, must be elucidated in agreement with the solution of the problem of self-defeat and the solution "in essentials" of philosophical problems; iv) we must account for Wittgenstein's changes of view in his middle period and his discovery of specific mistakes in the *Tractatus*.

2   He cites the works of Malcolm (1986), Hacker (1986), and Pears (1987) as paradigmatic examples of "metaphysical" readings of the *Tractatus*.

3   Ogden's translation of these passages is the following: "It is clear that however different from the real one an imagined world may be, it must have something – a form – in common with the real world. / This fixed form consists of the objects". In Pears/McGuinness translation, these passages are: "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. / Objects are just what constitute this unalterable form".

ing of these passages comes into conflict with other key ideas of the *Tractatus* and must be rejected as not fitting in the overall interpretation of the book.

Engelmann's criticism of metaphysical readings is centered on the idea that such readings are committed to some *de re* necessities, which violates the autonomy of logic and the Tractarian idea that there is only logical necessity. In his criticism, he focuses on two supposed *de re* necessities with which a metaphysical reading is committed: i) the number of objects in the world and ii) the combinatorial possibilities of objects. In what follows, I consider only the former. This restriction is not severe, since the acceptance of a fixed number of objects that would be common to the description of any world, real or imaginary, is, by Engelmann's own lights, enough to characterize a reading of the *Tractatus* as metaphysical and, therefore, susceptible to the objections he raised against them.

Besides the aforementioned issues, Engelmann thinks that metaphysical readings are problematic because they cannot properly explain the grounds for Wittgenstein's critique of Russell's axioms of infinity and reducibility. According to Engelmann, these axioms are not logical because they are contingent, that is, we can imagine worlds in which they do not hold: "nothing logically *a priori* prevents us from imagining worlds with only two, three, or four objects. Indeed, the varying number of objects in possible worlds grounds Wittgenstein's critique of *all* strange 'laws of logic', which are actually not logical laws at all. This is a serious shortcoming [of metaphysical readings]" (Engelmann, 2021: 32).

At this point, a "metaphysical" reader will perhaps disagree with Engelmann's interpretation of Wittgenstein's criticism of Russell's axioms of infinity and reducibility. However, let us proceed for a moment with Engelmann's reading and raise the following question: how could we be *a priori* sure that we can imagine worlds with only two, three, or four objects? To this question, a traditional reader of the *Tractatus* answers: "we can't; all we can do is to wait for the result of the logical analysis of our language, which will show us how many objects there *are*". By contrast, Engelmann thinks we can *a priori* guarantee that we can imagine a world with an arbitrary number of objects. He gives the following example in the context of a discussion of Russell's theory of identity:

> Logically, one can imagine, for instance, a world with three objects *a*, *b*, and *c*, and properties Φ and Ψ. Suppose that *a*, *b*, and *c* are names of three objects and that 'Φa', 'Φb', and 'Φc' are the only true propositions in a language/world. It is not impossible and it makes sense to say that things a and b have all properties in common. (Engelmann, 2021: 31-2)

I take for granted that, if we can imagine a world, we can *say*, perhaps wrongly, that this is how *our* world is. That is, if we can imagine a world, we can describe such a world in our language (a conception of "imagining a world" that does not imply the possibility of thinking and describing this world in our language would surely be mystifying). But, again, how can we be *a priori* sure that we can describe this world in our language, before we have the result of analysis? If my reading of Engelmann's interpretation of the *Tractatus* is correct, the key to understand how he thinks this is possible is to pay close attention to how he conceives of the Tractarian notion of a *logical prototype* (logischen Urbild). This notion centrally occurs in the *Tractatus* in the following passage:

> If we turn a constituent of a proposition into a variable, there is a class of propositions all of which are values of the resulting variable proposition. In general, this class too will be dependent on the meaning that our arbitrary conventions have given to parts of the original proposition. But if all the signs in it that have arbitrarily determined meanings

are turned into variables, we shall still get a class of this kind. This one, however, is not dependent on any convention, but solely on the nature of the proposition. It corresponds to a logical form – a logical prototype. (TLP: 3.315)

As Engelmann points out (2021: 49), a logical prototype is essentially a schematic form that contains only variables. In the passage above, Wittgenstein describes a procedure that starts with a proposition and ends with a logical prototype. To get at a logical prototype, we must turn into variables all the signs in the proposition that have arbitrarily determined meanings. Is this "genetic" procedure (which I call henceforth "logical abstraction") the only way prototypes can be given? A standard way of answering this question is this: "yes, but since we do not know the final result of analysis, we do not know *a priori* which are the prototypes that can be given by means of this process". By contrast, Engelmann thinks that all prototypes are *a priori* given (2021: 43). These logical prototypes are φx, φ*xy*, …, that is, they are: the ascription of a predicate to an object, of a two-term relation to two objects, and so on. Engelmann uses the following piece of textual evidence for his interpretation:

> We portray the thing, the relation, the property, by means of variables and so shew that we do not derive these ideas from particular cases that occur to us, but possess them somehow *a priori*. (NB: 65)

It may be useful to remark that the immediately preceding entries from the *Notebooks 1914-16* also support Engelmann's reading:

> We can talk of functions of this and that kind without having any particular application in view.

> For we don't have any examples before our minds when we use Fx and all the other variable form-signs.

> In short: if we were to apply the proto-pictures only in connection with names, there would be the possibility that we should know the existence of the proto-pictures from the existence of their special cases. But as it is we use *variables*, that is to say we talk, so to speak, of the proto-pictures by themselves, quite apart from any individual cases. (NB: 65)

Nevertheless, the use of passages from the *Notebooks 1914-16* to support an interpretation of the *Tractatus* can be challenged (one could say, for instance, that these remarks were written before the distinction between the task of logic and of its application was made by Wittgenstein, and that the ideas that led to them were abandoned in the *Tractatus*). Therefore, it is crucial to confront the interpretation directly with the passages of the *Tractatus* (and also with what Wittgenstein said later about the *Tractatus*). But before this can be done it is necessary to understand how the fact that the logical prototypes are given *a priori* helps us with picturing worlds with two, three, four, … objects. The only possible answer I can think of is the following: we can use the operation *N* in connection with a logical prototype to create general propositions, even if we do not know whether analysis would reveal that there are specific elementary propositions that have the form of that prototype. Engelmann comes close to saying this in the following passage:

> Thus, in the general form of the proposition it is assumed that the logical prototype expresses the possible forms of elementary propositions: φx, φ*xy*, etc. (TLP: 4.24). We do not know a priori which *specific* forms will be found in analysis, but we do know the *possible* forms, since we know how to operate with the prototypes (TLP: 5.555). If we did

not know that, we would not be able to foresee some propositional forms, and it would be incorrect to say 'there cannot be a proposition whose form could not have been foreseen (i.e., constructed)' (TLP: 4.5). The general propositional form shows, in its turn, that by means of the operation N operating in accordance with the prototype, all complex forms can be constructed (TLP: 6). (Engelmann 2021: 47).

Let us assume that my reading of Engelmann's interpretation is correct (otherwise, how could we picture worlds with two, three, four, … objects and two, three, four unary/binary/ternary... predicates?). Suppose we want to describe a world with exactly two objects that satisfy a single unary predicate[4]. To this end, we could start using the prototypes $\varphi_1 x$, $\varphi_1 y$, $\varphi_1 z$ and applying logical operations to them to construct the proposition

(1) $\exists \varphi_1 (\exists x \exists y (\varphi_1 x \wedge \varphi_1 y) \wedge \neg \exists x \exists y \exists z (\varphi_1 x \wedge \varphi_1 y \wedge \varphi_1 z))$[5].

(1) alone does not say that our world has exactly two objects, since there may be i) more than one unary property of individuals and ii) binary, ternary, etc. relations between individuals. Therefore, to picture a world with exactly two objects, we must add to (1) the following conjuncts:

(2) $\neg \exists \varphi_1 \exists \psi_1 (\exists x (\varphi_1 x \vee \neg \varphi_1 x) \wedge \exists x (\psi_1 x \vee \neg \psi_1 x))$

(3) $\neg \exists \varphi_2 (\exists x (\varphi_2 xx \vee \neg \varphi_2 xx) \vee \exists x \exists y (\varphi_2 xy \vee \neg \varphi_2 xy))$, $\neg \exists \varphi_3 (\ldots)$, $\neg \exists \varphi_4 (\ldots)$, …

By construction, (2) is false whenever there are two properties of individuals. The members of (3), in turn, are true when there are no binary, ternary, … relations. So, the conjunction of (1), (2), and all the (infinitely many) members of (3) says that our world has exactly two objects that satisfy a single "existing" predicate, as desired.

It is important to notice that, according to Engelmann, analysis could reveal that there are no specific elementary propositions that display the prototype $\varphi_1 x$ or the prototype $\varphi_2 xy$, and yet we can *talk* about unary, binary, ternary predicates, etc. because we possess these prototypes *a priori*. This is why he thinks we can imagine (and, thus, talk about) a world with a single unary predicate and two objects even before the final result of logical analysis.

Now I consider in turn some of the positive aspects and the drawbacks of Engelmann's interpretation.

The first positive aspect of Engelmann's interpretation is that it offers a very natural reading of TLP 6.1233. It reads: "It is possible to imagine a world in which the axiom of reducibility is not valid. It is clear, however, that logic has nothing to do with the question whether our world really is like that or not." Now, only in a world with infinitely many objects the axiom of reducibility may not be valid. Therefore, it seems that Wittgenstein is saying that it is possible to imagine a world with infinitely many objects without having to wait for the result of analysis to be sure of this possibility. To someone who holds that it is not possible to be *a priori* sure of this possibility,

---

4   To simplify things, I am assuming that predicates do not "cover" names of objects. Engelmann also seems to hold that predicates are neither names, nor "cover" a plurality of names. For this notion of "covering", see Anscombe (1965: 34).

5   Notice that I am using Wittgenstein's convention according to which different variables must have different values.

the only alternative I can envisage for interpreting 6.1233 is to say that, here, Wittgenstein is somehow anticipating the result of analysis (as he does, one might argue, in 2.0251).

The second positive aspect of Engelmann's interpretation is that it allows us to see how we can get at completely generalized propositions (and even describe the world completely) without first correlating any name with a particular object, as 5.526 tells us. If we think that all logical prototypes are only obtained by logical abstraction from specific elementary propositions, then it is hard to see how one would construct completely generalized propositions before first correlating names with objects. Remark 5.526 is, thus, a hard puzzle for a traditional reading of the *Tractatus* (For a recent discussion, see Potter 2021 as well as Nakano 2021).

A first shortcoming in Engelmann's reading is that it is difficult to see how, according to his interpretation, a proposition is always a truth-function of elementary propositions (TLP 5). Suppose I use the logical prototype $\varphi^4 xyzw$ to describe a world (let us call this description "D") in which there is a relation among 4 objects. Suppose, further, that analysis shows us that there is no elementary proposition that displays this logical prototype. Then, how could D be a truth-function of elementary propositions? The only way out here seems to say that D is not a proposition and, contrary to what we supposed, we did not describe any world with D. But then it is not *a priori* guaranteed that we can think about any world with any predicates and any numbers of objects as we please.

 In the second place it is to be noted that Wittgenstein's remark in the *Tractatus* about Russell's axiom of infinity is not directed against its supposed contingency, but against its attempt to say what can only be shown: "All the problems that Russell's 'axiom of infinity' brings with it can be solved at this point. / What the axiom of infinity is intended to say would express itself in language through the existence of infinitely many names with different meanings" (TLP 5.535). According to Engelmann's reading, on the other hand, the problem of the axiom of infinity is that, being contingent, it may be false, and logic cannot depend on what is contingent. The *sense*, however, of the axiom is irreproachable. This is at odds with what Wittgenstein wrote in the margin of Ramsey's copy of the Tractatus in 1923: "The prop[osition] 'there are n things such that . . .' presupposes for its significance what we try to assert by saying 'there are n things' (Lewy. 1967: 421). That the sense or the significance (I assume the two words mean the same in this context) of a proposition of the form "there are n things such that . . ." presupposes that there are (at least) n objects is arguably linked to the fact that the number of objects is fixed. In this vein, Potter writes:

> Notice also that since which objects there are does not vary between worlds, how *many* there are does not vary either. And if how many objects there are does not vary between worlds, there cannot be a genuine proposition which expresses how many there are. The best we could do in this regard would be to say something which *presupposes* for its significance that there are a certain number of objects. If we did that, we would show but not say how many things there are. (Potter, 2005: 73)

This line of reasoning is also what grounds a particular critique Wittgenstein directed against Ramsey in section 135 of *Philosophical Remarks*. This section reads:

> Ramsey proposed to express the proposition that infinitely many objects satisfied a function by denying all propositions of the form:
>
> $\sim (\exists x) \cdot fx$
>
> $(\exists x) \cdot fx \cdot \sim (\exists x, \, y) \cdot fx \cdot fy$

$(\exists x, y) \cdot fx \cdot fy \cdot \sim (\exists x, y, z) \cdot fx \cdot fy \cdot fz$, etc.

But let's suppose there are only three objects, i.e., there are only three names with a meaning. Then we can no longer write down the fourth proposition of the series, since it makes no sense to write: $(\exists x, y, z, u) \cdot fx \cdot fy \cdot fz \cdot fu$. So I don't arrive at the infinite by denying all the propositions in this series. (PR, 135)

Wittgenstein is arguing that it is illegitimate to write down the proposition $(\exists x, y, z) \cdot fx \cdot fy \cdot fz \cdot \sim (\exists x, y, z, w) \cdot fx \cdot fy \cdot fz \cdot fw$ if there aren't four objects. The conclusion one reaches seems to be that we cannot know *a priori* whether it makes sense to describe a world with *n* objects (satisfying some predicate), for we need *n* names with meaning to *meaningfully* write down this description. This conclusion is also in agreement with what Wittgenstein writes about the axiom of infinity in *Philosophical Remarks*, namely, that this axiom "is nonsense if only because the possibility of expressing it would presuppose infinitely many things – i.e. what it is trying to assert. You can say of logical concepts such as that of infinity that their essence implies their existence" (PR, 100).

All this points to the conclusion that we have to wait for the result of logical analysis to know which logical prototypes we have and to know how many different variables can be legitimately used in a general proposition. We cannot say that we have *a priori* all logical prototypes, conceived as "empty forms" (Engelmann, 2021: 49) waiting to be *possibly* filled by the discovery of elementary propositions. This conclusion is also in line with what Wittgenstein says in the *Tractatus* about variables and formal concepts, namely, that they cannot be given without an object falling under it (see 4.12721).

I suspect that Engelmann is unconsciously attributing to the *Tractatus* a conception of logic that Wittgenstein in turn critically attributed to Russell and Ramsey. This conception, which Wittgenstein calls "ideal logic" (LC: 253), can be seen as an "attempt to build up a logic to cover all eventualities" (AWL: 143). This is a recurring topic in Wittgenstein's writings after 1929, and he thinks this idea (which is *not* to be found in the *Tractatus*) is "an important absurdity" (*idem*). According to this conception, we can introduce a notation to express any function[6] of any form independently of there being in our language specific functions (say, a 27-termed relation) of a given form. Engelmann is aware that "we do not know a priori if we will need, after analysis is finished, a '27-termed relation in order to signify something' (5.5541)" (2021: 35). However, he thinks that we know *a priori* about all the possible forms of elementary propositions (*idem*) and, thus, that we can have an *a priori notation* that is partly composed of these possible forms. Russell (and Ramsey) could not agree more with this suggestion. The *Tractatus*, however, as I understand it, is completely against it. As I read the *Tractatus*, Wittgenstein defended the idea that we cannot prepare logic to deal with "any language" and, thus, with "any meaning" (this is precisely "ideal logic"). Logic already depends on actual meaning, not *any* meaning, but the meaning of "*der* Sprache (der Sprache, die allein ich verstehe)" (5.62).

To ground both my suspicion about Engelmann's reading and my own interpretation on what Wittgenstein said later about the *Tractatus*, I will focus on some recently published remarks from the notes of G. E. Moore that touch upon the issues in question. Although, as I said earlier, the critique of "ideal logic" is a recurrent theme in Wittgenstein's middle period writings[7], the remarks below are particularly interesting for two reasons: i) because they help us to understand a certain sense of the term "world" as it is used in the Tractatus (for example, in 5.5521) which is important for the purposes of my discussion of Engelmann's reading, and ii) because

---

6   See Russell (1910: p. 54).

7   Besides the aforementioned remarks from LC and AWL, see BT, pp. 382-387 and PG, pp. 306-314.

they illuminate some aspects of the difference between Wittgenstein's conception of logic and Russell's. These remarks begin with:

> Suppose we've made a hierarchy of types of functions: and I ask for <u>examples</u>:
>
> Of 2-termed he will give me "love".
>
> Of 3-termed he will give me "jealousy".
>
> But if I ask him: Is there 37-termed? He could not give one, but would say he has prepared a notation for them.
>
> Now were the 3-termed relations bound up with the examples? Were the examples essential? (LC: 251)

The first thing to be noted about these remarks is that by "hierarchy of types of functions" Wittgenstein does not mean a series such as first-order functions (with names of individuals as arguments), second-order functions (with first-order functional expressions as arguments), and so on, but a series composed by variously termed functions. I hold that it is this hierarchy that Wittgenstein suggests does not exist in TLP 5.556. Elementary propositions do not fill this *a priori* established hierarchy: their forms are *unforeseeable*. Of course, since we know that elementary propositions are composite, we know that argument and function are present (5.47). This, however, says too little: we cannot build up from this an *a priori* notation for functions and arguments, because functions are only obtained by logical abstraction, which depends on actual elementary propositions. That is, if I am correct, the question Wittgenstein raises above, namely, "were the 3-termed relations bound up with the examples?", is answered positively in the *Tractatus* (and it is clearly answered positively in the continuation of these remarks, as we will see). This passage from LC continues with the following remarks:

> Could we construct logic without the world?
>
> Can we prepare a logical structure in advance; as we prepare tea in advance?
>
> In latter case I'm preparing for something to be the case, which may not be the case.
>
> But in former I'm preparing for: what?
>
> If I write R(x,y,z,w) can I say <u>what</u> I'm expecting? I couldn't describe it, because description would have to contain a 4-term relation.
>
> What does a man find, when he finds an example of a 2-termed relation?
>
> E.g. "A loves B". (LC: 251-252)

The first two remarks link the temptation to "construct logic without the world" and the "temptation to prepare a logical structure in advance". Since Wittgenstein is denying that it makes sense to prepare a logical structure in advance (because I cannot describe for what I am preparing this logical structure), he is also denying that we can construct logic without the world. But here "world" clearly does not mean "the totality of facts", but instead "the forms of states of affairs" (since this is what is at stake in these remarks), which are, according to picture theory, the same as the specific forms of elementary propositions. This remark opens the door for a better appraisal of two difficult aphorisms of the *Tractatus*. They are:

> 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?'
>
> 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? (TLP: 5.552-5.5521)

I interpret these remarks as answering negatively the question raised above: we cannot construct logic without the world. This does not mean that logic presupposes some specific facts, for what logic presupposes is not an experience. Logic presupposes *that* the world *is*, but not *how* it is. However, we must consider, in light of our earlier interpretation of a certain use of the term "world", that in this context, this *"that"* does not simply refer to the brute existence of any facts no matter which, but it also refers to the specific forms of all states of affairs and thus to the specific forms of elementary propositions. Since the latter are concatenations of names of objects, the *"that"* on which logic depends also ultimately refers to the number of things in the world. This is *not* a "how", since there is no such thing as experiencing the forms of states of affairs or experiencing the number of things in the world. We cannot prepare logic in advance to receive these specific forms (or eventually some others) and the specific number of objects (or eventually some other number of objects). We can prepare tea in advance, but we cannot prepare logic (with all possible forms of elementary propositions) in advance.

Therefore, if analysis reveals that all relations are 4-termed, I cannot even *talk* of 2-termed relations and, so, I cannot imagine a world in which there are 2-termed relations. This is in contrast with Engelmann's idea that we can imagine any world with any kind of relation and with any number of objects as we please.

In some remarks below the passages of LC on which we commented, Wittgenstein makes a clear description of what he thinks the differences between his conception of logic and Russell's were in this respect. I quote these remarks in full:

> Russell & I agreed in <u>waiting</u> for analysis; but I said we can't tell what analysis will yield; but Russell said it must yield this or that.
>
> I was right in one way; Russell in another.
>
> I was right, in thinking you can't prepare for a word to have meaning.
>
> Russell & I both were unclear about "analysis", thinking that further work at <u>logic</u> would shew us the elements.
>
> I was right in thinking there can't be hypotheses in logic: you can't say: "If a word had meaning", (when it hasn't). You can't construct an ideal Logic: one <u>not</u> "covered" by meaning.
>
> I thought Russell had no right to say that the <u>result</u> of analysis would be 2 term, 3 term relations etc.. (LC: 253)

In these passages, it is plain that Wittgenstein is contrasting a conception of logic which is always "covered" by meaning and, so, depends on the "world" (in the sense discussed above) and a conception of logic which makes preparations for meaning, anticipating what the possible results of analysis would be. Notice that Wittgenstein does not describe Russell's position as one which says that analysis must yield specific relations, such as 27-termed relations, but as one which says analysis must yield "this or that", that is to say, one-place predicates, or two-term relations, or three-term relations, and so on. But these are precisely the "possible forms of elementary propositions" that are *a priori* given according to Engelmann. I cannot see how this is compatible, thus, both with the *Tractatus* and with what Wittgenstein said about the *Tractatus* in the early thirties.

It is also interesting to note that, in the passage above, Wittgenstein associates ideal logic with the idea of "hypothesis on logic". What does he mean by "hypothesis on logic" in this context? I think it is very plausible to assume that he was referring to Ramsey's attempt, in a manuscript entitled "The number of things in the world", to "construct different languages applicable to [....] different worlds" (Ramsey 1991: 171), each world having a different number of things. In this manuscript, Ramsey calls these worlds "hypothetical partial worlds" (*ibid*: 175) and at the end he sums up his ideas saying that "we have seen how we can combine the study of the logics of different worlds by introducing expressions as *hypotheses*, which in certain worlds are tautologous, in others naturally meaningless" (*ibid*: 176, italics mine). This is, in Wittgenstein's view, an attempt to build up logic not "covered" by meaning, which is impossible, because logic presupposes *actually* meaningful propositions to which it applies. It is plain nonsense both to speak of *possibly* meaningful expressions and to speak of empty notations that could eventually acquire a meaning.

To conclude, I return to the original motivation for Engelmann's reading, which is to save the autonomy of logic and the Tractarian idea that there is only logical necessity. If there is a fixed number of objects in all thinkable worlds, isn't this a "*de re* necessity"? Doesn't this somehow violate the idea that there is only logical necessity? Let us suppose that analysis reveals that there are only four simple signs, and therefore only four objects. In which sense is this a *de re* necessity? This is surely not a necessary *fact*, for we cannot neither *describe* this fact, nor *experience* it. What a proposition like "there are four things" intends to say would express itself (to adapt Wittgenstein's own words in 5.535) in language through the existence of four names with different meanings. So, that there are four things is not "substantial nonsense", but instead is something shown in the symbolism of *meaningful* language. I cannot see how this violates the idea that there is only logical necessity. For what is shown in the symbolism is not *facts*, but *possibilities of facts*, and "logic deals with every possibility" (TLP: 2.0121). These possibilities cannot be treated *a priori* by logic, but still, it is *the application of logic* that settles which elementary propositions there are. These necessities, like any necessity in the *Tractatus*, are logic's business.

References

Anscombe, G. E. M. (1965) 'Retraction'. *Analysis* 26: 2, pp. 33-36.

Hacker, P. M. S. (1986) *Insight and Illusion*. 2nd edition. Oxford: Clarendon Press.

Engelmann, M. (2021) *Reading Wittgenstein's Tractatus*. Cambridge: Cambridge University Press.

Lewy, C. (1967) 'A note on the text of the Tractatus', Mind 76, 416–423.

Malcolm, N. (1986) *Nothing is Hidden*. Oxford: Blackwell.

Nakano, A. (2021) 'Haecceitism in the *Tractatus*: A refutation of Ishiguro's view on Tractarian names'. *Analysis* 81: 2, pp. 232-240.

Pears, D. (1987) *The False Prison*, vol. 1. Oxford: Clarendon Press.

Potter, M. (2005) 'Ramsey's Transcendental Argument'. In: H. Lillehammer and D. H. Mellor (orgs), *Ramsey's Legacy*. Oxford: Clarendon Press, 2005, *pp*. 71-82.

_____. (2021) 'How substantial are Tractarian objects really?'. *Disputatio* 10: 18, pp. 93-107.

Ramsey, F. (1991) *Notes on Philosophy, Probability and Mathematics*. Edited by M. C. Galavotti. Napoli: Bibliopolis.

Russell, B. (1910) *Principia Mathematica*. Vol 1. Cambridge: Cambridge University Press.

Wittgenstein, L. (1961/2004) *Tractatus Logico-philosophicus*. Translated by B. F. McGuinness and D. Pears. London: Routledge. (abbreviated as TLP)

_____. (1922/1999) *Tractatus Logico-philosophicus*. Translated by C. K. Ogden, with an introduction by B. Russell. New York: Dover Publications.

_____. (1961/1979) *Notebooks, 1914-1916*. 2nd edition. Translated by G. E. M. Anscombe. Chicago: The University of Chicago Press. (abbreviated as NB)

_____. (1975) *Philosophical Remarks*. Translated by White, R. and Hargreaves, R. Chicago: The University of Chicago Press. (abbreviated as PR)

_____. (1974) *Philosophical Grammar*. Edited by Rush Rhees, translated by Anthony Kenny. Oxford: Basil Blackwell.

_____. (1982) *Wittgenstein's Lectures, Cambridge 1932-1935; From the Notes of A. Ambrose and M. Macdonald*. Edited by Alice Ambrose. New York: The University of Chicago Press. (abbreviated as AWL)

_____. (2005) *The Big Typescript: TS 213.* Edited and translated by C. Grant Luckhardt and Maximilian A. E. Aue, Malden: Blackwell. (abbreviated as BT)

_____. (2016) *Wittgenstein: Lectures, Cambridge 1930-1933; From the Notes of G. E. Moore*. Edited by D. Stern, B. Rogers, and G. Citron. Cambridge: Cambridge University Press. (abbreviated as LC)

Abstract

In a recent book, Engelmann (2021) has put forward a reading of the *Tractatus* which he maintains would remove the difficulties presented in other readings, particularly the "metaphysical" and the "resolute" readings. In this paper, my concern will be with Engelmann's criticism of the metaphysical readings of the *Tractatus*. This criticism is centered on the idea that such readings are committed to some *de re* necessities, which violates the autonomy of logic and the Tractarian idea that there is only logical necessity. I analyze the particular case of a supposed *de re* necessity, namely, the number of objects in the world. After describing some positive aspects and drawbacks of Engelmann's interpretation of this case, I suggest that Engelmann is unconsciously attributing to the *Tractatus* a conception of logic that Wittgenstein in turn critically attributed to Russell and Ramsey; thus, this conception cannot be his own. Finally, I return to the original motivation for Engelmann's interpretation, which is to save the autonomy of logic, and briefly show how to conciliate the autonomy of logic with a fixed number of objects.

Keywords: Wittgenstein, *Tractatus*, autonomy of logic.

Resumo

Em seu livro recente, Engelmann (2021) avançou uma leitura do *Tractatus* que, a seu ver, removeria as dificuldades presentes em outras leituras (em particular, nas leituras "metafísica" e "resoluta"). Neste artigo, ocupar-me-ei da crítica de Engelmann às leituras metafísicas do *Tractatus*. Tal crítica baseia-se na ideia de que essas leituras estão comprometidas com algumas necessidades *de re*, o que violaria a autonomia da lógica e a ideia Tractariana segundo a qual só há necessidade lógica. Analisarei o caso particular de uma suposta necessidade *de re*, a saber, a do número de objetos no mundo. Depois de descrever alguns aspectos positivos e alguns obstáculos à interpretação de Engelmann desse caso, sugerirei que Engelmann está inconscientemente atribuindo ao *Tractatus* uma concepção de lógica que Wittgenstein, por sua vez, criticamente atribuiu a Russell e a Ramsey e que, portanto, não pode ser a sua. Por fim, retornarei à motivação original para a interpretação de Engelmann, que é a de salvar a autonomia da lógica, mostrando de maneira breve como conciliar a autonomia da lógica com um número fixo de objetos.

Palavras-chave: Wittgenstein, *Tractatus*, autonomia da lógica.