

The Fixed Form of the World

Peter Hanks

pwhanks@umn.edu

University of Minnesota

ABSTRACT

One of the most puzzling features of objects in the *Tractatus* is that they exist necessarily. Wittgenstein expresses this commitment at 2.022 and 2.023, where he says that there is a form common to all possible worlds and that objects constitute this fixed form. In this paper I argue that the necessary existence of Tractarian objects is a consequence of their simplicity, but to make sense of this inference we must understand simplicity in a logical and not a mereological sense. I also argue that we need to read into the *Tractatus* a view that he only makes fully explicit in 1929 in his early post-*Tractatus* remarks. This is the view that representation takes place within systems, and that objects are the images of the basic representational elements in such systems. This systematic view of representation is in tension with his commitment to the independence of elementary propositions—a tension that he only came to see clearly under the influence of Ramsey. In Wittgenstein's response to Ramsey he gives up on the independence of elementary propositions and emphasizes the systematic nature of representation. In doing so he doubles down on a commitment to the systematicity of representation that was already there in the *Tractatus*. This allows us to see the necessary existence of objects as an expression of the following idea: we use the same systems of representation for thinking and speaking about any possible world. An object brings with it a whole system of representation that is used to represent facts of a certain form, where facts of this form are common to all possible worlds. This is the sense in which objects constitute the fixed form of the world.

1. Introduction

Of the many puzzling features of objects in the *Tractatus*, perhaps the most surprising is that they exist necessarily. Wittgenstein expresses this commitment at 2.022 and 2.023:

2.022 It is clear that however different from the real one an imaginary world may be, it must have something—a form—in common with the real world.

2.023 This fixed form consists of the objects.¹

Objects constitute the “fixed form” of the world, which is shared by all possible worlds. Objects therefore exist necessarily. One reason this is surprising is because just a few remarks earlier he seems to give examples of objects—spatial objects, specks in a visual field, tones, objects of the sense of touch (2.0131)—that exist only contingently. Once we get to 2.022 and 2.023 it becomes clear that these cannot be examples of objects after all. Furthermore, apart from abstracta, it is difficult to come up with examples of anything that exists necessarily. Wittgenstein could hardly have thought that the world is constituted by combinations of things like numbers and Platonic universals.

Why did Wittgenstein think that objects exist necessarily? One clue comes from the numbering system. 2.022 and 2.023 are comments on 2.02:

2.02 The object is simple.

This suggests that the necessary existence of objects is a consequence of their simplicity. Some commentators read the *Tractatus* this way, for example, Brian McGuinness:

The objects assumed are simple in a much stricter sense than that given above for the simplicity of signs, and one consequence of their simplicity is that they are common to all possible worlds. They form the substance of the world or the form of the world. (McGuinness 1981, 62)

But other commentators see things in precisely the opposite direction. According to Ian Proops, the simplicity of objects is a consequence of their necessary existence:

To claim that substance exists, therefore, is not to claim that there are simples, but rather that there are necessary things. The simplicity of these things follows from their necessary existence: for complexes could always be destroyed through the dissolution of the whole into its parts. (Proops 2004, 110)²

To make matters worse, neither of these inferences is intuitively compelling. The simplicity of an object does not guarantee its existence.

¹All quotations from the *Tractatus* are from the Ramsey-Ogden translation (Wittgenstein 1922).

²See Ludwig (1976, 313–14) and Morris (2008, 42) for similar remarks.

Why couldn't the catalog of metaphysical simples vary from one possible world to another? Surely the number of such simples could vary, so that one world might contain fewer simples than another (Copi 1958, 160; Griffin 1964, 69).

Conversely, why couldn't there be composite objects that are impossible to decompose? The concept of a necessary composite object is not incoherent. Proops' remark that "complexes could always be destroyed through the dissolution of the whole into its parts" suggests spatially extended complexes with spatially extended parts. Perhaps the parts of any spatial complex could be separated, at least in the abstract. But there is independent reason to think that the objects of the *Tractatus* are not spatial. Spatially extended objects bear spatial relations to one another, and spatial relations induce dependencies between facts. For example, if b is between a and c , then the distance between b and a must be less than that between c and a . The problem is that the atomic facts of the *Tractatus* are all independent. "Any one can either be the case or not be the case, and everything else remains the same" (1.21). This means that atomic facts cannot involve spatial relations between objects, which implies that Tractarian objects are not spatial. We therefore cannot rely on intuitions about spatial complexes to draw conclusions about Tractarian objects. Of course, this just deepens the mystery about what Tractarian objects could be. The point is that if Tractarian objects are not spatial then it is not at all obvious that composite objects could only exist contingently.

To add to the puzzlement, there is also the fact that Wittgenstein identifies objects with the shared form of all possible worlds. The claim that objects *have* a form makes intuitive sense, and Wittgenstein says as much in the *Tractatus* (2.0141, 2.0251). But the claim that objects *are* a form—in fact, the form of all possible worlds—sounds like a category mistake. Intuitively, the form of all possible worlds ought to be something like a pattern that is instantiated in different ways by different possible worlds. Objects seem categorically unsuited to play this role, even if they exist necessarily.

My goal in this paper is to shed light on why Wittgenstein held that the objects of the *Tractatus* exist necessarily, and why he identifies them with the fixed form of the world. I will make two main interpretive claims. The first is that the simple/complex distinction in the *Tractatus* is not mereological. It is not about whether an object has parts. Rather,

it is a logical distinction, in Wittgenstein's broad sense of that term. The simplicity of Tractarian objects consists in the fact that they are designated by simple, unanalyzable names. Complexes, by contrast, are designated by noun phrases that can be analyzed away. Whether something is simple or complex is determined by the kind of term that stands for that object, not by whether it has parts.

The second interpretive claim requires reading into the *Tractatus* a view that Wittgenstein only makes fully explicit in his early post-*Tractatus* work, circa 1929. This is the view that representation takes place within systems, and that systems of representation are logically more fundamental than individual sentences. The importance of representational systems is a prominent theme in his remarks from 1929. I am going to argue that this theme is present in the *Tractatus*, for example in the 2.01s, where we find the idea that "objects contain the possibility of all states of affairs" (2.014). I read this as an expression of the idea that objects are the metaphysical images of names that are bound together into representational systems. Related statements of the systematicity of representation appear in the 3.4s and more generally in the Tractarian concept of logical space. A cost of reading this commitment into the *Tractatus* is that it locates a tension between this systematic view of representation and a more atomistic one represented by the independence of atomic sentences. But as we will see, this tension is real, and it accounts for his first shift away from the *Tractatus* when he returned to philosophy in 1929.

These two interpretive claims combine to explain 2.022 and 2.023 in the following way. Simple objects are the metaphysical correlates of simple, unanalyzable names. These names are the basic elements in the systems of representation that we use for thinking and speaking about the actual world and any possible world. The systems of representation that we have are the ones we have, and we are bound to use them to talk not just about how things are but how things could or must be. Because of this, the basic elements in our representational systems will be present in any representation of any real or imagined situation. Simple objects, the images of these elements, are therefore common to all possible worlds. The necessary existence of Tractarian objects amounts to the fact that we use the same systems of representation to represent any possible world. This is, in effect, to see the necessary existence of Tractarian

objects as a consequence of their simplicity. But again, this only makes sense if simplicity is understood in a non-mereological sense.

This line of interpretation also clarifies Wittgenstein's identification of the fixed form of the world with objects. The objects of the *Tractatus* are holistically bound together into networks of objects that are metaphysical reflections of representational systems. Any single object thus brings with it a representational system that is built to represent facts in a connected network. Wittgenstein's talk about objects is a kind of metaphysical shorthand for speaking about whole representational systems. Any such system is designed to represent facts of a certain kind, that is, facts with a certain form. Since we apply the same representational systems to all possible worlds, facts of these forms are common to all possible worlds. An object, then, determines a form of a fact that is shared across all possible worlds. This can be summed up in Wittgenstein's uniquely elegant way by saying that the fixed form of the world consists of objects.

All of this needs to be filled out with examples and textual support, which I will provide over the course of this paper. The first task is to understand Wittgenstein's simple/complex distinction. Like so much of the *Tractatus*, the story starts with Russell.

2. Russell on Complexes

The concept of a complex figured prominently in Russell's work from around the turn of the century. In the 1904 paper "Meinong's Theory of Complexes and Assumptions" Russell explains the simple/complex distinction as follows:

Among objects there are two kinds, the simple and the complex. The latter are characterized by a certain kind of unity, apparently not capable of definition, and not a constituent of the complexes in which it occurs. (Russell 1904, 463)

A complex implies a relation, and *vice versa*; it is more than the collection of its constituents, in virtue of the combining relation. Although the relation is part of the complex, the complex is not composed of the terms and the relation, for the terms are related to the relation in consequence of being related by it. . . . Thus what distinguishes our complex is not any constituent at all, but simply and solely the fact of relatedness in a certain way. Out of given constituents, even when account is taken

of all the infinitude of relating relations, different complexes can be constructed: thus, e.g., “*a* is greater than *b*” and “*b* is greater than *a*” differ in no respect which analysis can preserve. It is this special and apparently indefinable kind of unity which I should propose to employ in characterizing the notion of a complex. (Russell 1904, 437)

For Russell around this time, a complex consisted of *n* particulars and an *n*-place relation, where the relation unifies these constituents by relating the particulars. Thus we have two complexes, *a* is greater than *b* and *b* is greater than *a*, whose constituents are *a*, *b*, and the two-place relation of being-greater-than that relates *a* and *b* in different “directions” in each complex. For Russell, complexes are facts in which particulars are joined together by relations.

Russell’s complexes also played the role of propositions, and in this role they are bearers of truth and falsity.

It is the things which are or may be *objects of belief* that I call *propositions*, and it is these things to which I ascribe truth or falsehood. I should not *define* them as possible objects of belief, but as things having a certain kind of complexity. (Russell 1905, 494)³

This attribution of truth and falsity to complexes leads to a conundrum. Complexes are facts, the kind of thing expressed by sentences. But complexes can also be picked out by noun phrases, and when that happens they function like particulars. To use Russell’s example in *The Principles of Mathematics*, one and the same complex is signified by the sentence “Caesar died” and the noun phrase “the death of Caesar” (Russell 1903, 48). Complexes therefore have a dual nature as facts and particulars. The problem for Russell is that complexes are true or false only when they occur as facts, not when they occur as particulars. At a

³As usual with Russell, there are complications in pinning down his position. In the 1904 paper on Meinong he identifies propositions with complexes but wavers about whether false propositions exist alongside true ones (Russell 1904, 463). One year later in 1905, in “The Nature of Truth”, he seems to have decided in favor of false propositions: “since false propositions may be judged just as well as true ones, they too are entities” (Russell 1905, 503). But he also says that propositions are just one kind of complex: “propositions are complexes of a certain kind, for some complexes are not propositions—for example, “the cow with the crumpled horn”, “Charles I’s execution”, etc.” (Russell 1905, 503). This shift in his view may have been a reaction to the problems about truth and falsity that I discuss in the paper. Also, in *The Principles of Mathematics* (Russell 1903) he regularly uses the word “proposition” both for sentences and for non-linguistic complexes. See Alford-Duguid and Amijee (2023) and Hanks (2022) for more on Russell’s views about propositions during this period.

minimum, being true or false requires sentence-like structure, which we find in the fact that Caesar died, which has both a subject and a “verb”, as Russell would say (Russell 1903, ch.4). But if we treat the complex as a particular, i.e. as the death of Caesar, then it lacks this kind of structure and is not capable of being true or false. As Russell put it, “neither truth nor falsity belongs to a mere logical subject” (Russell 1903, 48). So, one and the same complex is a fact that is true or false and also a particular that is not capable of being true or false. Russell tried to solve the problem by introducing the notoriously obscure notion of “logical assertion”, but as he himself admitted, “this difficulty, which seems to be inherent in the very nature of truth and falsehood, is one with which I do not know how to deal satisfactorily” (Russell 1903, 48).⁴

3. Wittgenstein on Complexes

Wittgenstein’s dissatisfaction with Russell’s complexes reaches all the way back to his earliest writings in “Notes on Logic”:

Russell’s “complexes” were to have the useful property of being compounded, and were to combine with this agreeable property that they could be treated like “simples”. But this alone made them unserviceable as logical types, since there would have been significance in asserting, of a simple, that it was complex. (Wittgenstein 1913, 100–01)

An even sharper criticism of Russell (and Frege) occurs in the following remark from “Notes on Logic”, where he uses “proposition” to mean “sentence”:

Frege said “propositions are names”; Russell said “propositions correspond to complexes”. Both are false; and especially false is the statement “propositions are names of complexes”. (Wittgenstein 1913, 97)

For Russell, the sentence “Caesar died” corresponds to the complex *Caesar died/the death of Caesar*, which is both a fact and a particular (Russell 1903, 48). Wittgenstein’s complaint is that this forces a sentence to play a representational role that it cannot play. Facts are asserted; particulars are named or denoted. If a sentence “corresponds” to a complex, and the complex is both a fact and a particular, then the sentence asserts the complex qua fact and names or denotes the complex

⁴See Proops (1997) for more on Russell on logical assertion.

qua particular. But, according to Wittgenstein, sentences can only assert facts. They cannot denote or name particulars. This is because sentences themselves are facts and thus can only represent things with the same logical structure, i.e., other facts:

In “ aRb ” it is not the complex that symbolises but the fact that the symbol “ a ” stands in a certain relation to the symbol “ b ”. Thus facts are symbolised by facts, or more correctly: that a certain thing is the case in the symbol says that a certain thing is the case in the world. (Wittgenstein 1913, 96)

Propositions are not names. (Wittgenstein 1913, 98)

Neither the sense nor the meaning of a proposition is a thing. (Wittgenstein 1913, 102)

These ideas, of course, persist into the *Tractatus*:

3.14 The propositional sign consists in the fact that its elements, the words, are combined in it in a definite way.
The propositional sign is a fact.

3.143 That the propositional sign is a fact is concealed by the ordinary form of expression, written or printed.

(For in the printed proposition, for example, the sign of a proposition does not appear essentially different from a word. Thus it was possible for Frege to call the proposition a compounded name.)

3.1432 We must not say, “The complex sign ‘ aRb ’ says ‘ a stands in relation R to b ’”; but we must say, “That ‘ a ’ stands in a certain relation to ‘ b ’ says that aRb ”.

3.144 States of affairs can be described but not *named*.

3.221 Objects I can only *name*. Signs represent them. I can only speak *of* them. I cannot *assert them*. A proposition can only say *how* a thing is, not *what* it is.

It is quite clear from these remarks that for Wittgenstein, sentences cannot denote particulars. They can only assert facts. Contrary to Russell, therefore, complexes cannot have a dual nature as both facts and particulars.

It is also clear that for Wittgenstein, complexes fall on the particular side of the fact/particular distinction. This comes out in the criticism of Russell in “Notes on Logic” when he says that it is false that “propositions

correspond to complexes". This makes sense if Wittgenstein is thinking of complexes as a kind of object, since sentences cannot "correspond" to objects in the sense of representing them. Further evidence comes from the pre-*Tractatus Notebooks 1914-1916*, where he provides examples of complexes:

23.5.15

Suppose the complex object is this book. Let it be called "A". (Wittgenstein 1979a, 50)

18.6.15

—For if I am talking about, e.g. this watch, and mean something complex by that and nothing depends upon the way it is compounded, then a generalization will make its appearance in the proposition and the fundamental forms of the generalization will be completely determinate *so far as they are given at all*. (Wittgenstein 1979a, 63–64)

When Russell offers an example of a complex he usually provides a sentence like "*a* is greater than *b*". Wittgenstein does not do that. His examples of complexes are a book and a watch. He uses noun phrases like "this book" and "this watch" to introduce these examples, and he gives one of them the name "A". He treated complexes as the kind of thing that can be named, which makes them a kind of object and not a kind of fact.

Additional confirmation can be found in a typescript from June 1931 titled "Complex and Fact":

Complex is not like fact. For I can, e.g., say of a complex that it moves from one place to another, but not of a fact.

But that this complex is now situated here is a fact.

I call a flower, a house, a constellation, complexes; moreover, complexes of petals, bricks, stars, etc. (Wittgenstein 1975, 301)

These remarks were written roughly a decade after Wittgenstein completed the *Tractatus* and so it is possible that he had moved on from his earlier views. However, I see no reason to think that these remarks constitute a break from the *Tractatus*. The examples he gives of complexes—a flower, a house, and a constellation—are in the same vein as the book and the watch from the *Notebooks*. Furthermore, in the early post-*Tractatus* writings, such as "Some Remarks on Logical Form" (Wittgenstein 1929), *Philosophical Remarks* (Wittgenstein 1975), and the

conversations with Waismann and Schlick (Wittgenstein 1979b), he is usually upfront about stating views that depart from the *Tractatus*. There is no hint of that in “Complex and Fact”. I read this typescript as an articulation of ideas that he held in the *Tractatus* and even earlier in the *Notebooks* and “Notes on Logic”.

All of this, however, raises a puzzle for the *Tractatus*. Recall that “an atomic fact is a combination of objects (entities, things)” (2.01). The question for Wittgenstein is: how is an atomic fact different from a complex? A watch is a combination of parts—gears and so on. If these parts are complex then they too will decompose into smaller parts, and this process of decomposition will continue until (presumably) we reach the simple, ultimate constituents of the watch. From this perspective, a watch is just a combination of simple objects. How is a watch different from an atomic fact? What entitles Wittgenstein to the claim that “complex is not like fact”?

The answer is that, for Wittgenstein, metaphysical categories are reflections of linguistic categories.⁵ The category of fact is a projection into the world of the linguistic category of sentences. To be a fact is to be the kind of thing that is asserted by a sentence; facts are that-which-sentences-assert. Complexes, by contrast, are projections of noun phrases. To be a Tractarian complex is to be denoted by a noun phrase like “the watch” or “the house made of bricks”. Facts are asserted with sentences; complexes are denoted with noun phrases. Because of this linguistic difference, facts and complexes fall into different metaphysical categories. As he put it in “Complex and Fact”: “To point out a fact means to assert something, to state something. ‘To point out a flower’ doesn’t mean this” (Wittgenstein 1975, 302–03).

In the *Tractatus* Wittgenstein wrote that “the picture is linked with reality; it reaches up to it” (2.1511). He expands on this metaphor in “Some Remarks on Logical Form”:

I have said elsewhere that a proposition “reaches up to reality”, and by this I meant that the forms of the entities are contained in the form of the proposition which is about those entities. For the sentence, together

⁵Here I am in broad agreement with Ishiguro, who argued that Tractarian metaphysical categories are logical in character: “To be an object, a function, or a fact, is not a classification of things in the sense in which to be solid or to be coloured or to be moving is. It is a purely logical notion, as it was for Frege, which the *Tractatus* calls a ‘formal concept’” (Ishiguro 1969, 26–27).

with the mode of projection which projects reality into the sentence, determines the logical form of the entities . . . (Wittgenstein 1929, 36)

This is about as clear as one can hope for. The logical forms of entities are determined by the way those entities are represented. Since facts are represented with sentences and complexes with noun phrases, these entities belong to different logical categories. The metaphysical distinction between facts and complexes is really a logical distinction.

This explains why atomic facts are not complexes. From a non-Tractarian point of view, an atomic fact and a complex look identical, since both are just combinations of objects. But this neglects the fact that Tractarian metaphysical categories are logical categories. A watch is not an atomic fact because the two are represented in different ways, which, in the system of the *Tractatus*, is sufficient for falling into distinct metaphysical categories.

4. Wittgenstein on Simples

We can apply this understanding of Tractarian metaphysical categories to understand what Wittgenstein means when he says that objects are simple. Just like fact and complex, the simple/complex distinction is really about a representational difference. In the case of facts and complexes, the relevant representational difference is between sentences and noun phrases, or between asserting and denoting. In the case of simples and complexes, it is the difference between simple, unanalyzable names and analyzable noun phrases. Simple objects, for Wittgenstein, are that-which-are-named-by-simple-names. Complexes, by contrast, are denoted by noun phrases that can be analyzed away:

2.0201 Every statement about complexes can be analysed into a statement about their constituent parts, and into those propositions which completely describe the complexes.

2.0201 comes immediately after 2.02 (“The object is simple”). His point is to clarify what it is for an object to be simple by drawing a contrast with complexes. 2.0201 says that complexes are designated by terms that submit to analysis. Any sentence containing a term for a complex can be analytically reduced to other sentences that do not contain that term. Simple objects, by contrast, are denoted by names that cannot be

eliminated by analysis. This is all by way of clarifying what it is for an object to be simple. Whether something is simple or complex is not a matter of whether it has parts, but rather the logical character of the term used to denote it.

If this is right, then it ought to be possible for a simple, unanalyzable name to designate something that is mereologically complex, in which case the mereologically complex object counts as logically simple. And in fact we find Wittgenstein contemplating this possibility in the *Notebooks*:

15.6.15

It is quite clear that I can in fact correlate a name with this watch just as it lies here ticking in front of me, and that this name will have reference outside of any proposition in the very sense I have always given that word, and I feel that that name in a proposition will correspond to all the requirements of the 'names of simple objects'. (Wittgenstein 1979a, 60)⁶

16.6.15

Now we just want to see whether this watch in fact corresponds to all the conditions for being a 'simple object'. —

The question is really this: In order to know the syntactical treatment of a name, must I know the composition of its reference? If so, then the whole composition is already expressed even in the unanalysed proposition. ... (Wittgenstein 1979a, 60)

18.6.15

If the complexity of an object is definitive of the sense of the proposition, then it must be portrayed in the proposition to the extent that it does determine the sense. And to the extent that its composition is *not* definitive of *this* sense, to this extent the objects of this proposition are *simple*. They *cannot* be further divided. — (Wittgenstein 1979a, 63)

22.6.15

Now when I do this and designate the objects by means of *names*, does that make them simple?

All the same, however, this proposition is a picture of that complex.

⁶As an aside, note the conflict between this remark in the *Notebooks* and Wittgenstein's version of the context principle, "Only the proposition has sense; only in the context of a proposition has a name meaning" (3.3). See Kremer (1997) for the evolution of Wittgenstein's views about the context principle and its increased importance in the final stages of his completion of the *Tractatus*.

This object is *simple* for me!

...

The name compresses its whole complex reference into one. (Wittgenstein 1979a, 70–71)

The notebook entry from 18 June 1915 is particularly helpful. This entry indicates that the mereological complexity of an object may or may not be definitive of the sense of a sentence. What could that mean? What would it be for the mereological complexity of an object to be definitive of the sense of a sentence? It could only mean something about the analysis of that sentence. When mereological complexity is definitive of the sense of a sentence, then the complex object is “portrayed” in the sentence in a way that indicates that the sentence submits to analysis. That is, the mereologically complex object is denoted by a term that can be analytically eliminated. By contrast, if mereological complexity is *not* definitive of sense, then the mereologically complex object must be denoted by a simple term that cannot be analyzed away, and “to this extent the objects of this proposition are *simple*”. Mereologically complex objects can be denoted by simple names, and when that happens they function as simple objects. This is *logical* simplicity, not mereological, and it is the kind of simplicity he means when he says “objects are simple”.

Now it’s true that these passages are confined to the *Notebooks*, and we do not find examples of mereologically complex yet logically simple objects in the *Tractatus*.⁷ But recall 2.1511, “the picture is linked with reality; it reaches up to it”. As he explains in “Some Remarks on Logical Form”, this means that “the forms of the entities are contained in the form of the proposition which is about those entities” (Wittgenstein 1929, 36). The idea from the *Notebooks* that a name “compresses its whole complex reference into one” provides a nice illustration of this thought. In a sentence about a watch, a simple name for the watch “reaches up” to the watch and “compresses” its mereological complexity into a simple, logical unity. The logical simplicity of the watch is “contained” in the simplicity of the name used to represent it. So even though we don’t find examples of mereologically complex yet logically simple entities in the *Tractatus*, I think it is clear that he maintained a commitment to this possibility in the *Tractatus*. And in any case, the *Tractatus* is short on

⁷Thanks to an anonymous referee for pressing this concern.

examples in general, which makes the lack of these kinds of examples somewhat to be expected.

5. Representational Systems

The task now is to show how the necessary existence of objects is a consequence of their logical simplicity.⁸ The prospects for this can look even worse than the inference from mereological simplicity to necessity. Objects are logically simple in the sense that they are denoted by simple, unanalyzable names. How could this confer necessary existence on objects? Why couldn't we use a simple name to denote a contingent object?

At this point I need to introduce the second main interpretive claim in this paper, which emphasizes the role of representational systems in the *Tractatus*. Let's start by looking at a sequence of remarks in the 2.01s. The theme of these remarks is that objects are tied essentially to spaces of possible atomic facts:

2.011 It is essential to a thing that it can be a constituent part of an atomic fact.

2.012 In logic nothing is accidental: if a thing *can* occur in an atomic fact the possibility of that atomic fact must already be prejudged in the thing.

2.0121 If things can occur in atomic facts, this possibility must already lie in them.

⁸An anonymous referee objected that 2.021 seems to indicate that the inference goes in the other direction, from necessary existence to simplicity.

2.021 Objects form the substance of the world. Therefore they cannot be compound.

If "substance" means "necessary existent", then this looks like an argument from necessity to simplicity. This is in line with Proops (2004). I mentioned one problem for this interpretation earlier, namely that the inference from necessity to simplicity is invalid. Another problem, which takes us beyond the scope of this paper, is that reading "substance" as "necessary existent" makes it difficult to give a plausible reading of the so-called "substance" argument in 2.0211 and 2.0212. In giving his interpretation of the substance argument, Proops is forced to read "whether a proposition has sense" in 2.0211 as "whether a proposition has a truth-value", and he makes it clear that this is a departure from the text (Proops 2004, 116). Taking "substance" to mean "simple" allows for an interpretation of the *reductio* in 2.0211 and 2.0212 that avoids the need for any such departure. See Hanks (2019). If "substance" means "simple", then 2.021 can be read as an explanation of the meaning of the term "substance", as one might explain the meaning of "bachelor" by saying: *x* is a bachelor, therefore *x* is an unmarried male.

2.0123 If I know an object, then I also know all the possibilities of its occurrence in atomic facts.

(Every such possibility must lie in the nature of the object.)

2.0124 If all objects are given, then thereby are all *possible* atomic facts also given.

2.013 Everything is, as it were, in a space of possible atomic facts.

2.014 Objects contain the possibility of all states of affairs.

2.0141 The possibility of its occurrence in atomic facts is the form of the object.

All of this is presented as a metaphysics of objects, but as we have seen from the fact/complex and simple/complex distinctions, we need to take these metaphysical claims as reflections of representational facts.⁹ Objects are simple in the sense that they are the metaphysical correlates of simple, unanalyzable names. Simple, unanalyzable names are the basic elements in systems of representation. Each such system is designed to allow for the construction of sentences that assert the existence of certain kinds of facts. An object is “in a space of possible atomic facts” in the sense that it is the metaphysical image of a name that is bound to a representational system that is constructed for representing facts in that space.

This is representational holism. The unit of meaning in the *Tractatus* is not an isolated name or a single proposition but a whole language, i.e., the whole representational system in which the name and proposition are embedded. This strand of holism in the *Tractatus* is embodied by Wittgenstein’s concept of logical space.¹⁰ Just as objects are the metaphysical images of names and facts are images of sentences, logical space is the metaphysical image of a whole language. The idea in the 2.01s that an object contains all of logical space is a metaphysically inflected statement of holism. Even more straightforward statements of holism can be found in the 3.4s:

3.4 The proposition determines a place in logical space: the existence of this logical place is guaranteed by the existence of the constituent parts alone, by the existence of the significant proposition.

3.42 Although a proposition may only determine one place in logical space, the whole logical space must already be given by it.

⁹See Bradley (1987) and Zalabardo (2015; 2021, 122) for a more straightforwardly metaphysical reading of the 2.01s.

¹⁰Many thanks to an anonymous referee for helping me get clear about this, and for drawing the connection to Kremer (1997).

(Otherwise denial, the logical sum, the logical product, etc., would always introduce new elements—in co-ordination.)
 (The logical scaffolding round the picture determines the logical space.
 The proposition reaches through the whole logical space.)

As Michael Kremer has observed, these remarks took on additional prominence in the transition from the *Prototractatus* to the *Tractatus*. In the *Prototractatus*, the idea that “a proposition determines a place in logical space” is buried inside the 3.2s at 3.2101 (Wittgenstein 1971, 75). In the *Tractatus* he moves this remark into a much more central position at 3.4. As Kremer argues, “the fact that these remarks are less prominent in *PT* than in *TLP* suggests at least a significant shift in emphasis, with *TLP* highlighting holistic aspects of Wittgenstein’s thought which are submerged in *PT*” (Kremer 1997, 91). Kremer takes this to suggest that “in renumbering his remarks for *TLP*, Wittgenstein was already moving in a direction usually associated with his middle and later writings” (Kremer 1997, 88). I think this is correct. The systematicity of representation is present in the *Tractatus*, but it is in tension with and obscured by other atomistic strands in his thought.¹¹ In his early post-*Tractatus* writings he brings the theme of systematicity out into the open and resolves the tension in the *Tractatus* by rejecting atomism.

The key remarks occur in 1929 when Wittgenstein returned to Cambridge after his decade-long break from philosophy. In this period his first move away from the *Tractatus* was to give up the view that elementary propositions are independent of one another. This was under the influence of Ramsey, who criticized Wittgenstein on this point in his review of the *Tractatus* (Ramsey 1923), and who must have discussed the topic with Wittgenstein during their two weeks together in Puchberg in 1923.¹² Wittgenstein abandons the independence of elementary

¹¹The systematicity of representation also comes through at 5.555 and 6.341, although it must be said that these remarks suggest that it is a special case. In 5.555 he says that “where, however, we can build symbols according to a system, there this system is the logically important thing and not the single symbols”. In 6.341 he gives an account of Newtonian mechanics as a special kind of system—a “net” with a particular kind of “mesh” for describing the universe, as he puts it.

¹²This is how Ramsey frames his criticism in his review of the *Tractatus*: “It is a principle of Mr Wittgenstein’s, and, if true, is a very important discovery, that every genuine proposition asserts something possible, but not necessary. This follows from his account of a proposition as the expression of agreement and disagreement with truth-possibilities of independent elementary propositions, so that the only necessity is that of tautology,

propositions in “Some Remarks on Logical Form” (Wittgenstein 1929), but a more revealing remark appears in a conversation with Friedrich Waismann from December 1929. The remark is worth quoting at length:

I once wrote: ‘A proposition is laid like a yardstick against reality. Only the outermost tips of the graduation marks touch the object to be measured.’ [see 2.1511, 2.1512, and 2.15121] I should now prefer to say: a *system of propositions* is laid like a yardstick against reality. What I mean by this is: when I lay a yardstick against a spatial object, I apply *all the graduation marks simultaneously*. It’s not the individual graduation marks that are applied, it’s the whole scale. If I know that the object reaches up to the tenth graduation mark, I also know immediately that it doesn’t reach the eleventh, twelfth, etc. The assertions telling me the length of an object form a system, a system of propositions. It’s such a whole system which is compared with reality, not a single proposition. If, for instance, I say such and such a point in the visual field is *blue*, I not only know that, I also know that the point isn’t green, isn’t red, isn’t yellow, etc. I have simultaneously applied the whole colour scale. . . .

When I was working on my book I was still unaware of all this and thought then that every inference depended on the form of a tautology. I hadn’t seen then that an inference can also be of the form: A man is 6 ft tall, therefore he isn’t 7 ft. This is bound up with my then believing that elementary propositions had to be independent of one another: from the fact that one state of affairs obtained you couldn’t infer another did not. But if my present conception of a system of propositions is right, then it’s even the rule that from the fact that one state of affairs obtains we can infer that all the others described by the system of propositions do not. (Wittgenstein 1975, 317)

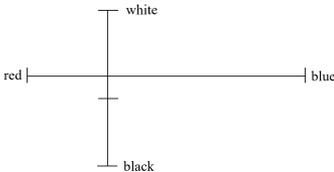
I read these remarks as Wittgenstein bringing out into the open something that was latent in the *Tractatus*, which he was prevented from

the only impossibility that of contradiction. There is great difficulty in holding this; for Mr Wittgenstein admits that a point in the visual field *cannot* be both red and blue; and, indeed, otherwise, since he thinks induction has no logical basis, we should have no reason for thinking that we may not come upon a visual point which is both red and blue. Hence he says that ‘This is both red and blue’ is a contradiction. This implies that the apparently simple concepts, red, blue (supposing us to mean by those words absolutely specific shades) are really complex and formally incompatible. He tries to show how this may be, by analysing them in terms of vibrations [see 6.3751]. But even supposing that the physicist thus provides an analysis of what we mean by ‘red’, Mr Wittgenstein is only reducing the difficulty to that of the *necessary* properties of space, time, and matter or the ether. He explicitly makes it depend on the *impossibility* of a particle being in two places at the same time. These necessary properties of space and time are hardly capable of further reduction of this kind” (Ramsey 1923, 17–18).

seeing clearly by his commitment to the independence of elementary propositions. As he came to see with Ramsey's help, the systematic view of representation is in conflict with his commitment to the independence of elementary propositions, and in his response to Ramsey he gives up on independence and doubles down on representational systems. In doing so he was not introducing a completely new idea but resolving a tension in the *Tractatus* by choosing one Tractarian commitment over another.

At this point an example of a representational system would be useful, and examples are thin on the ground in the *Tractatus*. Once again we can find help in a remark to Waismann:

Sign for a colour:

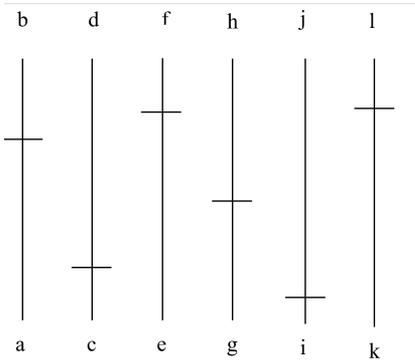


Every statement about colours can be represented by means of such symbols. If we say that four elementary colours would suffice, I call such symbols of equal status *elements of representation*. These elements of representation are the 'objects'.

The following question has now no sense: Are objects something thing-like, something that stands in subject-position, or something property-like, or are they relations, and so forth? It is simply where we have elements of representation of equal status that we speak of objects.

(Wittgenstein 1979b, 43)

Taking a cue from his "sign for a colour", imagine a system of representation consisting of a set of sliders, like the ones on a mixing board in a music studio, where the positions of the sliders represent the values of various qualities or magnitudes.



An elementary proposition in this system is an array of slider positions, with each position somewhere between a pair of limit values, $\langle a, b \rangle$, $\langle c, d \rangle$, and so on.¹³ These limit values (along with other aspects of the system, such as the sliders themselves) are elements of representation in this system—as Wittgenstein says, they are its “objects”.¹⁴ These limit values serve as fixed points in a system of representation that generates a range of possible elementary propositions, i.e., a range of possible arrays of slider positions.¹⁵

¹³We could also write down an elementary proposition by assigning a real number to each pair of values. The idea that elementary propositions can contain numbers is a recurring theme in the early post-*Tractatus* work. For example, in “Some Remarks on Logical Form” he says that “the atomic statement must have the same multiplicity as the degree which it attributes, whence it follows that numbers must enter the forms of atomic propositions” (Wittgenstein 1929, 35). Similarly, in a remark to Waismann he says that “real numbers or something similar to real numbers can appear in elementary propositions, and this fact alone proves how completely different elementary propositions can be from all other propositions” (Wittgenstein 1979b, 42).

¹⁴It facilitates the discussion here to be careless about use-mention issues. Note the similar carelessness in Wittgenstein’s discussion of the “sign for a color” in the remark to Waismann.

¹⁵An anonymous referee pointed out that the representational systems discussed by Wittgenstein during this period often incorporate constraints on combinations of values. For example, in a system for representing colors a value between red and blue rules out a non-zero value between red and yellow. The problem is that the system of sliders I offer in the text seems to allow for “free play” of the sliders, as the reviewer put it, with no constraints on combinations of slider positions. But it would be easy to add such constraints, so that the sliders would not move independently of one another. Stepping back, my intention with the slider model is to provide an abstract generalization, not tied essentially to colors, of the kind of representational system that Wittgenstein described to Waismann. The purpose of this generalized system is just to help clarify what Wittgenstein

Now, consider the object a in this system of sliders. You cannot understand what a is without understanding the role of a in this system, and that brings with it an understanding of all the elementary propositions (arrays of slider positions) that can be constructed in the system. Stated in metaphysical terms, this is just 2.0123: "If I know an object, then I also know all the possibilities of its occurrence in atomic facts". The rest of the remarks in the 2.01s fall into place along similar lines. For example, it is essential to a that it can be a part of the atomic facts represented by arrays of slider positions (2.011); the possible atomic facts represented by these arrays "lie in" a (2.0121); a "contains" the possibility of all of these possible atomic facts (2.014); and the "form" of a is given by the range of possible facts that can be represented by this system of sliders (2.0141). All of these are different ways of articulating the idea that objects are the metaphysical images of the basic representational elements in the systems we use for constructing elementary propositions, where these basic representational elements are tied essentially to the systems of which they are a part and cannot be understood independently of these systems.

This line of interpretation also helps clear up two other puzzling claims in the *Tractatus*. The first occurs in the 5.55s, where he seems to say that we cannot know a priori the logical forms of elementary propositions:

5.55 We must now answer a priori the question as to all possible forms of the elementary propositions.

The elementary proposition consists of names. Since we cannot give the number of names with different meanings, we cannot give the composition of the elementary proposition.

5.5571 If I cannot give elementary propositions a priori then it must lead to obvious nonsense to try to give them.

But why not? Why can't we give a priori the forms of elementary propositions? This seems utterly trivial: an elementary proposition has one of the following forms: R_1x , R_2xy , R_3xyz , and so on. In general, an elementary proposition consists of n names and an n -place predicate. Wittgenstein himself suggests as much in the *Tractatus* at 4.24: "The

means by an "element of representation" and the way in which elements of representation are holistically connected.

elementary proposition I write as a function of the names, in the form “ fx ”, “ $\varphi(x,y)$ ”, etc.” Why is there any mystery here?

Because this is really a question about the kinds of systems we use for constructing elementary propositions, and there is no saying a priori what those systems will look like. Maybe we use a system of sliders like the one I sketched above—but maybe not. It is not difficult to imagine different kinds of representational systems, as Wittgenstein himself does in his early post-*Tractatus* work, where we find discussions of the following:

- a collection of adjustable yardsticks (Wittgenstein 1979b, 76)
- a series of raps (Wittgenstein 1980, 3)
- a clock and thermometer (Wittgenstein 1980, 6)
- two weights on a balance beam (Wittgenstein 1975, 275)
- a double eight-sided pyramid (Wittgenstein 1975, 278)
- a differential gear (Wittgenstein 1975, 288)
- rectangular axes with an arbitrary scale (Wittgenstein 1929, 33–34)

As I read him, the question raised in the 5.55s is about whether it is possible to settle a priori which kinds of representational systems we use for constructing elementary propositions. His answer is “no”, we cannot know this a priori.¹⁶ Indeed, the second part of 5.55 says as much. Just like objects, Tractarian names are bound essentially to systems of representation and cannot be understood separately from these systems (3.311). To give a name is therefore to give a whole representational system. The problem is that “we cannot give the number of names with different meanings”—that is, we cannot know a priori what our basic representational systems look like. For that reason, we cannot know a priori the logical forms of elementary propositions. Solving this problem requires an a posteriori process of analysis of ordinary and

¹⁶In “Some Remarks on Logical Form” he wrote: “That is to say, we can only arrive at a correct analysis by, what might be called, the logical investigation of the phenomena themselves, i.e. in a certain sense *a posteriori*, and not by conjecturing about *a priori* possibilities. One is often tempted to ask from an *a priori* standpoint: What, after all, *can* be the only forms of atomic propositions, and to answer, e.g. subject-predicate and relational with two or more terms further, perhaps, propositions relating predicates to relations to one another, and so on. But this, I believe, is mere playing with words. An atomic form cannot be foreseen” (Wittgenstein 1929, 32).

scientific discourse that will reveal their underlying representational forms.¹⁷

The second puzzling claim is the “links in a chain” metaphor from 2.03: “In the atomic fact objects hang one in another, like the links of a chain.” I think it is impossible to make sense of 2.03 if one is locked into the view that Tractarian objects must either be “thing-like” or “property-like”, as he put it to Waismann (Wittgenstein 1979b, 43). Tractarian objects are neither particulars nor universals in the traditional philosophical senses of those terms (Johnston 2009). Rather, they are the basic elements in systems of representation, and they are tied essentially to these systems. Each such element has a role to play in these systems, and they are holistically connected to the other elements in the system. This makes good sense of the chain metaphor: as elements of representational systems, objects are like the links of a chain that are constructed to fit together with one another.

6. Conclusion: From Simplicity to Necessary Existence

It should now be clear why the necessary existence of Tractarian objects follows from their simplicity. The simplicity of objects is the fact that they are the metaphysical images of simple, unanalyzable names. The lesson of the 2.01s is that, as images of simple names, objects are tied essentially to systems of representation and the spaces of facts that these systems represent. Now we can read 2.022 as a claim about representational systems. 2.022 says that “it is clear that however different from the real one an imaginary world may be, it must have something—a form—in

¹⁷But what about 4.24, where he seems to list the forms of elementary propositions? Here is the rest of this remark:

4.24 The names are the simple symbols, I indicate them by single letters (x, y, z).
The elementary proposition I write as a function of the names, in the form “ fx ”,
“ $\varphi(x,y)$ ”, etc.
Or I indicate it by the letters p, q, r .

I read this as Wittgenstein providing a notational convention for this part of the *Tractatus*. He is telling the reader: I am going to use the following notation for elementary propositions: “ fx ” for an elementary proposition with one name, “ $\varphi(x,y)$ ” for an elementary proposition with two names, and so on. This notational convention is consistent with the a priori agnosticism that he expresses in the 5.55s.

common with the real world.” This is Wittgenstein’s way of saying that we apply the same representational systems to all possible worlds. Any such system is designed to represent facts of a certain kind, i.e., facts that have the same “form”. Consider the system of sliders. The facts represented by this system consist of arrays of values for the various magnitudes represented by the sliders. These facts all take the same form—they are all arrays of values. If we use this system to represent any possible world, then facts of that form are common to all possible worlds. 2.023 says that “this fixed form consists of the objects”. This form is “fixed” in the sense that we use the system for representing any possible world. And the fixed form “consists of the objects” because any object brings with it the whole representational system of which it is a part and hence the form of facts represented by that system.

Ultimately, then, the necessary existence of Tractarian objects amounts to the fact that we use the same systems of representation for thinking and speaking about any possible world.¹⁸ But is that enough? Shouldn’t it also be *necessary* that we use the representational systems that we actually use?¹⁹ We have seen that for Wittgenstein the question about the logical forms of elementary propositions is a posteriori, which implies that our representational systems are contingent. But different representational systems would bring different “elements of representation” and hence different objects. If Tractarian objects depend on systems of representation and those systems are contingent, then it looks like Tractarian objects turn out not to be necessary after all.²⁰

There are two things to say in response. The first is to admit that the necessary existence of Tractarian objects is a kind of relativized necessity. Given a representational system, all possible worlds share a common domain of objects and shared form of facts. These are the

¹⁸See Griffin (1964, 68–69) and McGinn (2006, 150–51) for readings of 2.022 and 2.023 along similar lines, with the difference being my emphasis on representational systems. I think that without this emphasis it is hard to make sense of Wittgenstein’s identification of objects with the fixed form of the world.

¹⁹Thanks to an anonymous referee for raising this question.

²⁰The reasoning here depends on the characteristic axiom of S4, $\Box p \supset \Box \Box p$ (Hanks 2008). Let p be “Tractarian objects exist”. If representational systems are contingent, then it is not necessary that p is necessary, i.e., $\neg \Box \Box p$. Given the axiom of S4, it follows that p is not necessary, $\neg \Box p$. So one way to resist this conclusion would be to deny the characteristic axiom of S4. However, I think it would be anachronistic to attribute anything like this line of thought to Wittgenstein in the *Tractatus*.

fixed form of the world, but only relative to that system. A different, incommensurable system of representation will entail a different domain of objects and a different fixed form. Although this possibility of alternative representational systems must be acknowledged, there is an important sense in which it is empty for us. We can acknowledge that there might be radically different ways of thinking and speaking, but to fill out this possibility we have no choice but to use the language that we actually use. An imagined world in which we speak an alien language must still have a form in common with the actual world, since otherwise we could not imagine it.

The second is to remind ourselves that a central aim of the *Tractatus* is to uncover the necessary features of thought and language. The picture theory of meaning is not a proposal about one way that language might work. It was supposed to provide the necessary, general features of any form of representation. The details of representational systems may vary, but at their core they all function in the same way, with simple names combining to form sentences with logical form. “What every picture, of whatever form, must have in common with reality in order to be able to represent it at all—rightly or falsely—is the logical form, the form of reality” (2.18). The claims in 2.022 and 2.023 can be seen in this light. A necessary feature of any system of representation is that it will have basic elements of representation that constitute a form shared by all possible worlds.

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