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Priority and Unity in Frege and Wittgenstein

Oliver Thomas Spinney

In the following article I intend to examine the problem of the unity of the proposition in Russell, Frege, and Wittgenstein. My chief aim will be to draw attention to the distinction between Russell's conception of propositional constituents, on the one hand, with Frege and Wittgenstein's on the other. My focus will be on Russell's view of terms as independent, propositions being built up *out of* these building blocks, compared with Frege and Wittgenstein's 'top down' approach. Furthermore, I will argue that, contra certain other commentators, Frege's metaphor of saturation and unsaturation does not serve as a solution to the problem of unity, and that the extension of this metaphorical language to Wittgenstein is, therefore, inappropriate.

Priority and Unity in Frege and Wittgenstein

Oliver Thomas Spinney

1. Introduction

The problem of the unity of the proposition was both acute and chronic for Russell. In contrast, Frege and Wittgenstein did not suffer the problem at all. In this article I aim to explain how Frege and Wittgenstein avoided the problem of unity by examining the role of the 'context principle' in each of their works. In turn, I intend to demonstrate how Wittgenstein's construal of an object in the *Tractatus* is clearly indebted to Frege's context principle. My focus will be on the explanatory priority of wholes over parts. Constituents for both Frege and Wittgenstein are not construed as capable of being characterised independently of their occurring in unities. Constituents are essentially copulative, in virtue of their nature's being explicable wholly in terms of unities. The notion of a unity is explanatorily prior to that of a constituent. This 'top down' approach to propositional constituents avoids the problem of unity entirely. By contrast, Russell held propositional constituents to be explanatorily prior to the unities in which they figure. Russell's 'bottom up' approach allows for the problem to occur, and obliges him to solve it. Leonard Linsky (1992) has also identified the role of the context principle in avoiding the problem of unity by emphasising the opposing direction of priority between Frege and Wittgenstein, and Russell. In order to establish that the context principle is central in both Frege and Wittgenstein's being able to avoid the problem of unity, I will take issue with a competing view. Frege's metaphor, which describes certain types of expression as saturated, others unsaturated, has been taken by some to serve as an attempt to

solve the problem of unity. In light of this, the commentators in question have extended this metaphor to Wittgenstein, but have typically taken Wittgenstein to have amended that metaphor in order to avoid certain difficulties with Frege's approach. Such commentators take issue with Frege's view that types are asymmetrically 'complete' and 'incomplete'; they hold that Wittgenstein's objects are all incomplete in Frege's metaphorical sense. I will argue that Frege's metaphor does not solve the problem of unity. I aim to demonstrate that Frege's metaphor itself relies on the context principle; the metaphor presupposes unity, it does not explain it. Consequently, I will draw the conclusion that it is inappropriate to extend the terminology of Frege's metaphor to Wittgenstein under the pretence that Wittgenstein's views are an advancement on Frege's metaphorical solution to unity. Finally, I will point to a substantial difference between Frege's mature work and that of Wittgenstein. Frege, at a certain point, appears to have assimilated sentences to complex proper names. Such an approach is at odds with the context principle. Wittgenstein did not make this move, and remained committed to a top-down approach to propositional constituents.

2. The Problem of the Unity of the Proposition

2.1. Russell's problem

As mentioned above, Frege and Wittgenstein did not suffer the problem of unity, so I will pose the problem as it appears in Russell (1903):

... wholes are always propositions. These are not completely specified when their parts are all known. Take, as a simple instance, the proposition "A differs from B," where A and B are simple terms. The simple parts of this whole are A and B and difference; but the enumeration of these three does not specify the whole. . . (§136)

Propositions are unities; they are complex. Propositions are capable of possessing a truth value. Moreover, propositions are

capable of being asserted or denied. When Russell analyses the proposition 'A differs from B' into the constituents: {A, difference, B}, he arrives at an 'aggregate', a mere list. This aggregate is the set of constituents from which the proposition is constructed. A set, though, is just not the sort of thing which is capable of being true or false; similarly, one cannot assert a list of objects. Wittgenstein makes this point clear when he says: 'Objects I can only name. Signs represent them. I can only speak of them. I cannot assert *them*' (*TLP*, 3.221). The analysis of a proposition, then, as long as it is only a list of terms, cannot *say* anything. The analysis has omitted the distinctive feature of a proposition unanalysed. The analysis of a given proposition, on Russell's view, does not sufficiently account for its *analysandum*. One might respond by remarking on how obvious it is that an analysis of ingredients is not sufficient for the production of a meal of which those ingredients are constituent parts. What is missing, one might suggest, is the *way* in which those constituents are combined. Indeed, Russell canvassed just this solution in 1913 in his *Theory of Knowledge* manuscript:

What we understand is that Socrates and Plato and "precedes" are united in a complex of the form " xRy ", where Socrates had the x -place and Plato has the y -place. It is difficult to see how we could possibly understand how Socrates and Plato and "precedes" are to be combined unless we had acquaintance with the form of the complex. (Russell 1913, 99)

Russell wants to include in any analysis of a proposition our acquaintance with the logical form of that proposition. In the case just given, that form will be: xRy . The analysis of 'Socrates precedes Plato' will be: {Socrates, Plato, precedence, xRy }. Here, though, we have yet another list. We have the mode of combination in which Socrates and Plato are to be related by precedence; we have the mode of combination, because it is another term. The logical form of the proposition now stands as merely another constituent. The analysis does not show that the constituents *are* so combined, instead it includes a mode of combination side by

side with the constituents to which that mode would be applied. It is not possible to account for unity by isolating any individual term and claiming of that term that it is the sole effector of unity. Any item we should attempt to hold as individually responsible for unity appears as just another term in the analysis, itself standing in need of combination with the others. It should be noted that Russell was conflicted about the status of logical form. On the account just given, the logical form is a term, on equal standing with the others. The view of propositional constituents which holds all mentionable entities to be equally capable of standing next to others in the analysis makes it impossible to bestow on any single one of those terms the copulative power required to unify the analysis. Russell saw this result, and said on multiple occasions that logical form was *not* also a constituent alongside the others: 'the mode of combination of the constituents of a complex is not itself one of the constituents of the complex' (1904, 98), and:

It is obvious, in fact, that when *all* the constituents of a complex have been enumerated, there remains something which may be called the "form" of the complex, which is the way in which the constituents are combined in the complex. (Russell 1913, 98, emphasis added)

Russell was reluctant to call the logical form of a proposition a constituent, lest it stand as a simple addition to the list, inert and itself in need of combination. However, Russell's broader position also urged him to consider the form as a constituent. It is this broader position which explains why the problem of the unity of the proposition emerged for Russell, and moreover, why he was obliged to develop a solution. Russell expresses his misgivings over withholding constituent status from logical forms in the *Philosophy of Logical Atomism*:

So it seems as though all the propositions of logic were entirely devoid of constituents. I do not think that can quite be true. But then the only other thing you can seem to say is that the form is

a constituent, that propositions of a certain form are always true: that may be the right analysis, though I very much doubt whether it is. (Russell 1918–19, 239)

The introduction of logical form was just one of numerous fixes which Russell attempted, and I do not intend to survey all of them. The introduction of logical form is particularly illuminating for Russell's position because it demonstrates clearly the tension between holding that some things are not themselves propositional constituents, while also being committed to precisely the opposite of that claim on other grounds. To see clearly why this tension emerged, and why Russell should have found it somewhat awkward to claim that logical forms were not constituents, it will be helpful to see the motivation for the opposite position.

2.2. Terms, reality, independence

In the *Principles of Mathematics* Russell makes the following claim:

Whatever may be an object of thought, or may occur in any true or false proposition, or can be counted as *one*, I call a *term*. This, then, is the widest word in the philosophical vocabulary. I shall use it as synonymous with it the words unit, individual, entity. The first two emphasise the fact that every term is *one*, while the third is derived from the fact that every term has being, *i.e. is* in some sense. A man, a moment, a number, a class, a relation, a chimaera, or anything else that can be mentioned, is sure to be a term; and to deny that such and such a thing is a term must always be false. (Russell 1903, §47)

Clearly then, the default position regarding logical forms, according to the characterisation just given, should have them count as terms. Logical forms seem to fulfil the above criteria. They can be an object of thought, indeed Russell's later account relies on our being acquainted with them, and they can be mentioned. Russell later wanted to deny that logical forms were terms, but in light of this original conception of a term, was at

something of a loss as to what else a logical form could be: 'it is not at all clear what is the right account of "form"' (Russell 1913, 99). Colin Johnston (2007, 235) makes this point clear when he says that: 'The point to note here is that he is under great pressure to admit forms as terms. . . from a general argument to the effect that everything must be a term'.

Why should Russell have been at pains to construe the notion of a term so inclusively? In order to answer this question we should look to the view which Russell was rejecting, namely the monistic philosophy of F. H. Bradley. Bradley (1893, 198) had denied that there was a plurality of independently existing terms at all: '... the Absolute is not many; there are no independent reals. . . the universe is one'. Jonathan Schaffer begins his defence of monism in the following way:

Monism is now usually interpreted as the view that exactly one thing exists. On such a view there are no particles, pebbles, planets, or any other parts to the world. There is only the One. Perhaps monism would deserve to be dismissed as obviously false, given this interpretation. But how *uncharitable!* (Schaffer 2010, 32)

In my view this characterisation of monism, at least as it appears in Bradley, is thoroughly accurate. Whatever else has been claimed of Bradley's philosophy that has been uncharitable, and doubtless much has, the claim that he held exactly one thing to exist seems to me to be true.¹ Furthermore, and as we shall see, Bradley did not accept the view that, although there were not many independent reals, there were many dependent reals. To be dependent is *not* to be real on Bradley's view. Bradley rejected the position that the world consists of multiple things, holding it to be a mistaken result of our everyday faculties which erroneously abstract features from their context and treat

¹See Lebens (2017) for a discussion of the relationship between the monistic tradition, Bradley's monism, and Schaffer's treatment of both. Lebens describes Schaffer as accepting that Bradley did, as I claim, hold that exactly one thing exists (6–7), despite this being unusual in the monistic tradition on the whole.

them as though they are capable of independent reality: 'Can we have a plurality of independent reals which merely coexist? No, for absolute independence and coexistence are incompatible' (1893, 136). Russell famously rejected this monistic position, and sought to replace it with a radically pluralist view. Describing this move, Russell said of his earlier self that he: 'began to believe everything the Hegelians disbelieved. This gave me a very full universe' (1959, 54–62). Russell arrived at a view of the world where all terms were held to have independent existence. Clearly, then, Russell did reject Bradley's conclusions regarding plurality. It is less clear that he rejected all of Bradley's assumptions. In my view Russell maintained a commitment to Bradley's criterion for something's being real, namely that of *independence*. Bradley clearly expresses the criterion: 'From this I conclude that what is real must be self-contained and self-subsistent and not qualified from the outside' (1893, 509). Russell commits himself to the criterion of reality as being independent on a number of occasions, notably: 'Another mark which belongs to terms is numerical identity with themselves and numerical diversity from all other terms' (1903, §47). Furthermore, Russell said of terms in 1903 that they are 'possessed of all the properties commonly assigned to substances' (§47); in 1918, when discussing that 'peculiar' feature of particulars, Russell compares them to substance in that they have 'that sort of self-subsistence that used to belong to substance' (1918–19, 179). Self-subsistence it seems, at least in 1903, is possessed of all terms, not just particulars. Stewart Candlish (2006, 160) has also drawn parallels between Russell and Bradley's reliance on independence, or self-subsistence, as a criterion of reality.

It will be important for a later comparison with Frege to notice just how central metaphysical concerns are for Russell. Much of Russell's theorising about the status and plurality of terms is developed as a reaction to the views of Bradley concerning certain metaphysical conclusions. Russell rejected Bradley's conclusions, but the questions he is asking regarding his ontological

commitments remain influenced by Bradley's metaphysical concerns. Tyler Burge emphasises this where he points out that 'Russell's formal theory incorporates into its subject matter entities that evince a strong admixture of metaphysical motivation' (1986, 106). Graham Stevens also mentions this feature of Russell's approach: 'Russell was hampered by his commitment to a quite specific metaphysical position that he occupied in advance of his logical investigations' (2005, 23). As we shall see in later sections, for Frege metaphysics was simply a necessary consequence of a position which was primarily motivated by considerations of truth and falsehood.

2.3. Independence and unity

Having described the motivation for and nature of Russell's ontological commitments, we can examine how these commitments bear on the problem of unity. We have established that, for Russell, all mentionable entities are terms capable of self-subsistence. An important consequence for this view is that propositional constituents are available in advance of and quite independently from the complexes in which they can occur. Propositions are built up *out of* their constituents. This is why Russell is obliged to offer an explanation of how this is so, and hence why the problem is pressing. Russell was indeed troubled by the problem of unity, and remarked on his discovering it that: 'To solve this difficulty—if indeed it be soluble—would, I conceive, be the most valuable contribution which a modern philosopher could possibly make to philosophy' (1899, 146).

One of the most striking consequences of Russell's view that terms are capable of being characterised quite independently of the complexes in which they occur is that it would seem that a term's being able to combine with others, if it is indeed able to combine with others, must not be an essential feature of a term. If it is in principle possible to account for a term's nature without recourse to explaining its combination with others in proposi-

tions, then the term's capability of combination looks like an accidental feature of that term. This very atomistic conception of terms is in striking dissimilarity to the views Wittgenstein expresses in the *Tractatus*. Wittgenstein opposes himself to Russell's position very early on:

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.

It would, so to speak, appear as an accident, when to a thing that could exist alone on its own account, subsequently a state of affairs could be made to fit.

If a thing can occur in atomic facts, this possibility must already lie in them. (*TLP*, 2.012–2.0121)

On Russell's view, even entities posited solely to effect unity, such as logical forms, are in principle capable of being characterised without any mention of their combinatorial abilities. Terms do not provide for an explanation of their own combination with others on the basis of their essential features. And because Russell's conception of a term is so inclusive, it follows that *nothing* can provide for an explanation of unity on the basis of its essential features. To mention *anything* is to construe it as a self-subsistent term. If a term is to have a copulative ability, this will be accidental. Linsky (1992, 246) points to an analogy with bricks and cement. Cement can be characterised in terms of its essential, physical properties, and in doing so no reference need be made to cement's being combinatorial. In order to fully describe the physical makeup of cement one need not refer to its ability to bind bricks together at all. Cement is able to bind bricks in virtue of its physical makeup. This ability, though, is 'accidental' in Wittgenstein's sense of that word. Cement's being able to bind bricks is an emergent property which is grounded in a nature that is not essentially combinatorial. If Russell's terms are able to bind with others, this will be an accidental feature in an analogous sense to that of cement. It is not at all obvious,

though, what account Russell could give of the essential nature of his independent terms whereby those terms could be said to exhibit accidentally combinatorial features. Russell does not provide such an account of terms' having accidental, or emergent, copulative abilities, though he does point to the need to provide such an account. It's not clear what such an account would look like. It would seem that if one does not include the ability to copulate as an essential feature of one's constituents, it is very difficult to explain how those constituents come to be accidentally copulative. Peter Sullivan makes a similar point when discussing Frege's very different approach to that of Russell:

If you leave it until too late in the explanation to introduce the notion, you will not be able to find a proper place for it. Similarly with word meanings and concepts: unless you think of these from the beginning as *essentially* ingredients of complex wholes... it will be impossible to explain later how they can combine to constitute such wholes... (Sullivan 2004, 705)

The tension between a radically pluralist universe and the need to explain how these independent entities combine to form complexes was a perennial problem in Russell's philosophical development. The 'bottom up' approach to unity was incapable of succeeding. As Peter Hylton has remarked, the problem of unity is: 'in principle unsolvable within the metaphysical framework which [Russell] establishes' (2005, 15).

In the following sections, we will see how Frege, and following him, Wittgenstein, reversed the picture of explanatory priority just detailed in Russell's account.

3. Frege's Context Principle

3.1. Unity

Frege's taking sentences as primary in his approach results in his construing sub-sentential expressions wholly in terms of their contribution to sentences. Frege, unlike Russell, does not build

up his unified expressions *out of* their independently available constituents. Instead, Frege takes the unified entity as a *given*, and explains the constituents of that unity in terms of the whole of which they are a part. The resulting approach is, for Frege, ‘top-down’, rather than, as per Russell, ‘bottom-up’. Frege is not obliged to give an explanation of the unity of sentences or the content which they express, because he is not committed to *any* constituents in advance of having specified their role in unified expressions. Frege’s approach construes constituents as dependent on the unity, and not vice versa. The unity is explanatorily prior to the constituents. In the following, I intend to demonstrate exactly how Frege conceives of the relationship between unities and the constituents of those unities. I will be emphasising the contributory role sub-sentential constituents make to the truth value of statements in which they occur. In doing so, I will be calling attention to the centrality of the notion of truth for Frege’s theorising. First though, I would like to examine the way in which Frege introduces his own principle. My focus on the identity of objects will inform my later discussion of Frege’s metaphor of unsaturation and saturation. I will also draw some conclusions about the status of metaphysics in Frege’s approach. In so doing, I will contrast Frege’s view with that of Russell’s own ontological commitments. In the following I will, somewhat anachronistically, be taking Frege’s context principle in the *Grundlagen* to be a principle concerning reference. It is not my intention to enter into any substantial debate about whether the principle concerns either sense, reference, or both. I take it that Frege’s concern with the ontological status of numbers in the *Grundlagen* is a concern with what he would later describe as the reference of number words, although Frege had not yet drawn his distinction between sense and reference at this stage. For my purposes, I will be focusing on the contribution a referent makes to the truth value of statements in which expressions for it occurs. Consequently, I am viewing the principle as one about reference, though I do not exclude the possibility of its being applied otherwise. I take it I would have Dummett’s blessing in

taking this liberty: ‘in *Grundlagen* itself, [the context principle] figures chiefly as a principle concerning reference’ (1981b, 369).

3.2. Abstract objects

Frege introduces the context principle early in the *Grundlagen* as the following prescript: ‘never to ask for the meaning of a word in isolation, but only in the context of a proposition’ (1884, x). This general statement of the principle belies its main application in the *Grundlagen*, namely, as a way of securing the reality of abstract objects, specifically those referred to by ‘number words’. Clearly Frege was against the view that meaning consisted in the token impressions that words often effect in an individual’s mental life. One reason for this is that a psychologistic view undermines the possibility of our communicating one and the same idea to others. More importantly for our purposes, though, Frege also offers the further criticism that such a view could not give an account of the meanings of abstract objects at all. In many cases, it is just not possible to point to a mental impression associated with an expression which refers to an abstract object which we could plausibly take to be that expression’s meaning. As he says:

There is not the slightest doubt that we can form no idea of our distance from the Sun. For even though we know the rule that we must multiply a measuring rod so many times, we still fail in every attempt to construct by its means a picture approximating even faintly what we want. (Frege 1884, §59)

Frege asks: ‘How then, are numbers to be given to us, if we cannot have any ideas or intuitions of them?’ (§62). Having already established that ‘It is enough if the proposition taken as a whole has a sense; it is this that confers on its parts also their content’ (§60), he answers his question with the following proposal:

Since it is only in the context of a proposition that words have any meaning, our problem becomes this: To define the sense of a proposition in which a number word occurs. (Frege 1884, §62)

Here we can see what I have described as the ‘top-down’ approach clearly at work. Frege’s strategy is this. To establish that expressions referring to number words refer, Frege takes a statement containing such words that he takes to be true. A statement is capable of a truth value, for Frege, only if all of its sub-sentential components do in fact refer. If the statement is true, then the sub-sentential components must all have referents. Clearly, Frege is taking the statement’s truth as a prior datum to that of the sub-sentential components’ having reference. *If a sentence is true then its constituents refer.* Frege remarked in *On Sense and Reference* that:

If anything is asserted there is always an obvious presupposition that the simple or compound proper names used have a *Bedeutung*. If therefore one asserts that ‘Kepler died in misery’, there is a presupposition that the name ‘Kepler’ designates something. (Frege 1892b, 162)

Assertion involves the assertion of a statement *as true*. A successful assertion therefore implies the successful reference of its constituents; successful reference of all constituents being a necessary condition on a statement’s being true.

For Frege, there is just no other way of determining that expressions for abstract objects refer which would not make recourse to either our psychology or the physical world. There is no method for ascribing a reference to number words in isolation from unities in which they may occur which guarantees both the objectivity and non-physicality of abstract objects. As Dummett says: ‘If we fail to acknowledge the [context] principle, we shall overlook the entire realm of logical objects, and recognise only physical objects and mental ones’ (1981a, 556). William Demopoulos echoes the explanation I have given where he says that:

... interpreted as a principle governing reference, it suggests that reference to abstract objects, and specifically to mathematical objects, can be achieved once we have established the truth of certain key propositions into which they enter. (Demopoulos 2013, 192)

Expressions putatively referring to abstract objects are taken to successfully refer if statements in which they occur are capable of having a truth value. These sub-sentential expressions, then, derive their capacity for having meaning entirely from their capacity to contribute to the truth value of a sentence in which they occur. The sentence is explanatorily prior in the sense that sub-sentential components are construed solely in terms of their relationship to the unity of which they are a part. Frege does not attempt to construct the statements under consideration out of previously available expressions whose referents have been established independently of their capacity to occur in sentences. This theoretical position which results in the posterior status of constituents is fundamental in guaranteeing the unity of complexes, and demonstrates why Frege has no problem of unity which he is obliged to solve.

3.3. Logic and ontology

The picture given above is somewhat simplistic insofar as I was taking Frege’s application of the context principle merely to establish *that* expressions putatively referring to abstract objects do in fact so refer. This picture is simplistic because I omitted a further feature of the context principle so applied. The context principle is not only utilised in order to establish *that* such objects refer, but also illuminates the *nature* of their reference. In the above discussion I focused on the notion of reference, but ignored the notion of *object-hood*. In establishing that Frege’s ontological commitments were not held in advance of his considerations of truth and falsehood, we will once more point to the difference between Russell’s and Frege’s approaches. For Russell, the separation of ontological considerations from the logical, and therefore the separation of his conception of the constituents of propositions from their relationship to the truth of propositions in which they occur, was indicative of an approach for which a solution to the problem of unity was not possible.

Having discussed the general method by which he is to secure the existence of abstract objects, namely by examining true statements which contain expressions referring to those objects, Frege canvasses a specific class of sentences which he takes to suit his purpose. Frege wants to establish that number words refer to abstract *objects*. Frege takes objects to be those terms which are capable of flanking an identity sign. Frege therefore takes statements which express a criterion of identity, if true, to establish that the terms on either flank refer to objects. As he says:

But we have already settled that number words are to be understood as standing for self-subsistent objects. And that is enough to give us a class of propositions which must have sense, namely those which express our recognition of a number as the same again. (Frege 1884, §62)

Singular terms are capable of occurring as the flanks in identity statements, hence why Ricketts suggests that: 'Frege recurs to the context principle at the conclusion of a discussion of statements of the form "There are n F ", a discussion that argues in effect that the numeral must be reckoned as a proper name' (1986, 86). Proper names, being singular terms, are capable of flanking identity signs. Their referents are therefore capable of being identical with themselves. The referent of a proper name is *therefore* an object. *All* that there is to object-hood, on Frege's view, is what the referent of a singular term must be in order to contribute to the truth value of a statement expressing that singular term. The metaphysical status of an object is therefore characterised solely in terms of the contribution such an entity must make to the truth value of whole sentences. Furthermore, given that the proper name refers, its referent is a *real* object. There is no further question, having established that the term refers, whether its referent *exists*. Dummett makes it plain that it would be a grave error to interpret Frege as suggesting that 'numerical terms stand for objects, but not for real ones' (1981b, 58).

Frege's ontological commitments are wholly derived from considerations of the truth of sentences. The nature and reality of the referents of sub-sentential constituents are derived from asking the question: what must the referent of this expression be in order that it contribute to the truth value of the sentence which expresses it? There is nothing more to a referent than what it must be in order that it carry out this role. The notion of objecthood is characterised wholly in terms of that of a unity, and is not a commitment Frege has independently or prior to considerations of unities. The context principle is therefore a thesis with metaphysical ramifications. As Dummett says:

Hence, if Frege had held that logical distinctions were quite unrelated to metaphysical or ontological ones, he would have drawn distinctions only between different types of linguistic expression and between different types of senses that they bear, not between the different types of things for which they stand. (Dummett 1981b, 436)

The principle says something substantial about the nature of Frege's ontological commitments. The principle characterises all ontological categories in terms of the contribution the items which fall into such categories make to the truth value of unities. What it is for something to be of such and such a type just is for it to have the relevant contributory capacity. Ricketts claims that the context principle comes to the following: 'To ask after the meaning of a word is then, *first of all*, to ask after its logical category' (1986, 86, emphasis added). To ask after the meaning of a word is to ask what its referent contributes to the truth value of statements in which it occurs; this is, firstly, discerned through an enquiry into the logical category of the term which expresses it.

Frege's ontological commitments are made palatable by appeal to their role in contributing to things which we already take to be true. By contrast, Russell's ontological commitments were conspicuously unrelated to truth and falsehood. Burge describes the difference by emphasising Frege's concern with truth:

Frege may be seen as a certain sort of minimalist in this context. He conceived of the fundamental part of logic—the calculus of truth values and first and second order logic—as having an aim and a subject matter that was relatively independent of metaphysical controversy. (Burge 1986, 106)

Russell's views, on the other hand, were forged in the fire of metaphysical controversy during his rejection of monism. Russell's attempt to accommodate truth and falsehood into a view which took constituents to be prior commitments to considerations of truth values was not a successful one. Russell did not share Frege's insight into the central importance of the sentence, the unity which is capable of a truth value. Demopoulos has described Russell as a 'naïve Platonist'; he describes the position as 'the view that knowledge of reference "precedes" knowledge of truth' (2013, 193). Russell did not begin with an entity capable of a truth value and derive his ontological commitments from considerations of the truth value of that unity. If Russell's judgements are capable of having a truth value, this will be an accidental feature of them; Russell's ontological commitments are not essentially construed in terms of their contributions to the truth value of sentences containing a constituent which expresses them.

3.4. The context principle as a general principle

So far I have aimed to establish that the context principle is a doctrine expressing the semantic priority of sentences over their constituents. Constituents of sentences are said to have meaning only in the context of a sentence. I mentioned above that a consequence of the context principle is that we characterise the constituents of sentences in terms of the sentence; the sentence is explanatorily prior. But what does this *characterisation* come to? In the above discussion I have attempted to explain the way in which constituents are characterised in terms of unities in which they occur by appeal to Frege's central concern with the

notion of truth. The characterisation which I mentioned turns on our describing constituents as expressions of meaning which are construed wholly in terms of the contribution they make to the truth value of unities in which they occur. Frege's top-down approach takes the unity as a given, and construes constituents in terms of their contribution to the truth value of this unity.

The context principle is a principle about what it is for any constituent to be capable of meaning at all. A constituent is capable of meaning only insofar as it is capable of contributing to the truth value of unities of which it is a part. To be capable of meaning just *is* to be capable of entering into a unity. If something cannot enter into a unity capable of possessing a truth value, that thing cannot have a meaning. The context principle gives us a necessary condition on something's counting as meaningful; the principle describes what it is for something to count as a word at all. Frege's context principle is a general principle about what meaning consists in. Although he expressly *applies* the principle most prominently to abstract objects, his statement of the principle makes no reference to the nature of the word in question's reference. The principle is not only applicable to constituents standing for abstract objects, it is not even only applicable to singular terms. Gaskin points out that, even having decided that a particular approach of his to the definition of natural number is not successful, Frege does not discard the context principle:

Frege's version of the context principle, which he states in a number of places in the *Grundlagen*, says that it is only in the context of a sentence that words mean something (that is, are meaningful), which we can here take to mean that 'if we understand how a word contributes to the meaning of sentences in which it occurs, there is nothing further about its meaning that has been left unsaid'. Sentences are conceptually prior to words in the sense that words are a theoretical abstraction from sentences; the account of what a word is and what it is for makes essential reference to its role in a sentence. I think we must agree with Dummett and Wright that the principle is not to be identified simply with a principle of contextual

definition . . . Certainly the independence of the context principle in the *Grundlagen* from any principle of contextual definition is clear from the fact that, though Frege rejects the contextual definitions of natural number he discusses, at the end of that work he leaves the context principle standing. (Gaskin 2008, 64)

That Frege did not feel the need to reject the context principle in light of unsuccessful approaches to use it in order to define certain abstract objects would clearly suggest that the principle was not invoked solely for that purpose. The principle was not an *ad hoc* mechanism employed in support of a fairly narrow concern with the reality of mathematical items. The context principle is a principle governing *all* words, and therefore *all* varieties of reference. Dummett emphasises the generality of the principle:

Here we are concerned with the form which a *general* account must take of what it is for a sentence to have a sense . . . and of what it is for a word to have sense . . . For the purposes of such a general account, the notion of the sense of a sentence has priority: for this can be explained by reference to the notion of truth-conditions, whereas the general notion of the sense of a word can be explained only in terms of that of the sense of a sentence in which the word may occur. (Dummett 1981a, 5)

Although I have not dealt with the application of the context principle to functional expressions so far, in what follows I will describe how the individuation of all types in Frege's account makes essential reference to the notion of a unity in which those expressions may figure.

4. Saturation, Unsaturation and Unity

I have placed great weight on the role of the context principle in avoiding the problem of unity. However, Frege adopted a metaphor concerning constituents that some have claimed serves as his solution to the problem. In this section I aim to argue against this claim, concluding that Frege's type distinctions are

themselves reliant on an application of the context principle. Since the metaphor of unsaturation is not itself a solution to the problem of unity, I will also take issue with those who extend this metaphor to Wittgenstein, having amended it in light of what they take to be shortcomings in Frege's application of the terminology.

4.1. A solution to unity

Along with his introduction of the context principle in the *Grundlagen*, Frege listed another two commandments, one of which was:

Never to lose sight of the distinction between concept and object. (Frege 1884, x)

Later, Frege elaborated on this precept with a metaphor whose first appearance is in a letter to Marty:

A concept is unsaturated in that it requires something to fall under it; hence it cannot exist on its own. That an individual falls under it is judgeable content, and here the concept appears as a predicate and is always predicative. (Frege 1882, 81)

Frege also makes use of this metaphorical language in *Grundgesetze*:

The essence of a function thus lies in that part of the expression without the 'x'. The expression of a function is in need of completion, unsaturated. The letter 'x' merely serves as a place-holder for a numeral to complete the expression, and so makes clear the particular kind of incompleteness that constitutes the peculiar essence of the function just designated. (Frege 1893, §1)

Frege, then, draws a sharp distinction between objects, which are said to be 'complete' or 'saturated', and functions, which are 'incomplete' or 'unsaturated'. Concepts, it should be noted, are a particular species of function which take objects as arguments and output truth values. The 'level' of a function is determined

by the level of argument it takes; hence concepts are *first* level functions, there is nothing in the hierarchy at a lower level than an object. Frege, therefore, stratifies his terms into *types*. For a function of any type to output a value it requires an argument of a type which is one level lower. Functions contain a 'space' for such an argument.

Stevens has claimed that Frege's use of the metaphor of unsaturation and saturation serves as Frege's solution to unity:

Having replaced the old subject-predicate logic with his vastly more powerful analysis based on the model of mathematical functionality, Frege recognised the importance of the predicative part of the proposition in preserving the unity of the proposition on analysis. Rather than analysing the proposition into a series of elements... Frege construes the predicative part of the proposition as a function which is essentially incomplete or 'unsaturated'. (Stevens 2005, 18)

On Stevens' reading, the incomplete expression has a unique copulative role in effecting unity. The unity of a proposition depends on the essentially combinatorial nature of a predicate. This reading is encouraged by passages such as:

Where the subject is an individual, the relation of subject to predicate is not a third thing added to the two, but it belongs to the content of the predicate, which is what makes the predicate unsaturated. (Frege 1892a, 183)

And:

For not all parts of a thought can be complete; at least one must be unsaturated or predicative; otherwise they would not hold together. For example, the sense of the phrase 'the number 2' does not hold together with that of the expression 'the concept *prime number*' without a link. We apply such a link in the sentence 'The number 2 falls under the concept *prime number*'; it is contained in the words 'falls under'. (Frege 1892a, 193)

These remarks might be taken to appear to emphasise a unique feature of functional expressions, holding them personally responsible for the unity of whole expressions. This interpretation

of Frege, though, cannot be right. To hold that Frege should have viewed certain types of constituents as uniquely capable of effecting unity is to ignore very fundamental features of his approach which discount the problem of unity from ever arising. The fundamental feature in question is the priority of sentences over their constituents. In the next section I will aim to demonstrate that the logical properties of functions are themselves reliant on their characterisation in terms of whole expressions in which they occur. For this reason, the 'incompleteness' of functions cannot itself *explain* unity, but presupposes it.

4.2. Logical behaviour, truth, unity

The first thing to say regarding the view that Frege's metaphor of unsaturation and saturation serves as a solution to the problem of unity is that the metaphor itself cannot be doing any serious work. The metaphor, as Frege admits, is only a 'figure of speech' (1892a, 193). Furthermore, Frege did not adopt the terminology of this metaphor, at least in print, until 1882. Unless Frege had believed himself to suffer a problem of unity prior to this point, it would seem implausible to suggest that his adoption of certain terminology was intended to *solve* that problem. Moreover, we have established that, for Frege, there was no such problem to solve. If the metaphor is to point to anything substantial which could be construed as explaining unity, it must be some asymmetry of the logical properties in the types we have mentioned. The obvious asymmetry to point to, in light of the language which Frege uses to discuss functions and arguments, is that functions require *completion* by an argument to output a truth value. Frege often describes a predicate as that which is 'invariant' through changes in substitution of arguments:

If an expression is thought of as variable in this way, it splits up into a constant component... and a symbol which can be thought of as replaceable by others and which denotes the object that stands in these relations. The former component I call a function, the latter its argument. (Frege 1879, §9)

However, the supposed invariance of the predicate compared to the variable argument is not adequate as a description of an asymmetry of the logical properties of these types. We could just as easily hold to a view which had arguments as invariant, and which relied on the application of varying functions in order to output different truth values. The asymmetry of saturation and unsaturation, it seems, cannot consist in one's being essentially invariant, the other variable, for neither are essentially invariant nor variable.

A more plausible explanation of the asymmetry proposed by Frege's metaphor which we are looking to account for has been proposed by Ricketts:

The self-subsistence Frege assigns to objects is the applicability to them of the relation *identity*. In contrast, the relation *identity* is not applicable to concepts. For concepts are what predicates mean, and predicates, on account of their incompleteness, cannot be the terms of equations. . . . Coextensiveness is for concepts the analogue of identity for objects.

Concepts *F* and *G* are coextensive if all and only those objects falling under *F* fall under *G*. This analogue for a principle of individuation for concepts, in generalizing over objects, presupposes the discreteness of objects, the applicability to them of the relation of identity. Identity—the discreteness of objects—is for Frege a fundamental, irreducible given. . . . This is what priority of objects vis-à-vis concepts comes to. (Ricketts 2010, 167–68)

The analogue of identity for concepts is coextensiveness. Two concepts are identical if and only if both map precisely the *same* objects to the same truth values. Coextensiveness, then, makes use of the notion of the *sameness* of an object. An object's being capable of flanking an identity sign is a prior notion upon which the individuation of concepts is based. The priority of one type over the other is explained with regards to the ways in which these notions are individuated. The individuation of concepts relies on the prior capacity for objects to be self-identical.

This explanation of the metaphor which Frege points to might seem somewhat removed from many of the discussions in which

he introduces the terminology of unsaturation and saturation. However, if we recall the above discussion of Frege's motivation for introducing the context principle, Ricketts' explanation seems very much in line with Frege's views. We saw that Frege expressly deploys the criterion of identity in his establishing the reality of abstract objects, precisely because it is an essential feature of terms expressing objects that they may flank identity signs. In turn, we saw that the notion of object-hood is arrived at through an understanding of whole expressions in which words which express them may occur. The logical property of being self-identical is a property of constituents *in situ*. Identity statements are, after all, whole statements.

What I would like to emphasise is that the individuation of concepts is, like that of objects, reliant on concept's being essentially characterised in terms of whole statements containing constituents which express them. Clearly there is an asymmetry in method of individuation between concepts and objects which relies on a relationship of priority *between* these two notions. There is also, though, a fundamental relationship between the individuation of *any* type of term and the truth of whole statements in which they occur. We have already seen that the notion of object-hood is an ontological category derived from the consideration that items which express objects are capable of occurring as flanks in identity statements. The notion of concept-hood is one derived from a concept's being individuated by means of sameness of extension. An extension, a mapping of objects to truth values, is clearly something which relies on the prior notion of a unity which possesses a truth value. The individuation of concepts requires the prior notion of sameness of object, but it *also* requires the prior notion of unities capable of possessing truth values. If the characterisation of concept-hood is to appeal to that of a unified entity with a truth value, then the notion of such a unity must be something prior to the characterisation in question. The characterisation of a concept cannot be said to *explain* unity when it itself makes use of that prior notion.

In my discussion of the context principle, above, I focused primarily on the role of proper names and objects. From the discussion of this section, it should be clear that I take the context principle to apply not only to words expressing objects, but to all words. I have taken Ricketts' explanation of the asymmetric ways in which concepts and objects are individuated to serve as an explanation of the metaphor of unsaturation and saturation. The different logical properties of these types, though, are characterised in terms of their contribution to the truth value of statements in which constituents which express them occur. Indeed, all logical properties are characterised in terms of the prior notion of a unity capable of possessing a truth value. Michael Kremer emphasises the relationship between the context principle and Frege's type distinctions where he says that:

[Frege] is less explicit about the relation between the context principle and the concept-object distinction, but it is there nonetheless. In *Gl*, Frege gets at the distinction between concept and object through a distinction between *names* and *concept-words* (predicates), itself drawn with the help of the context principle. It is only by considering how a word functions in a sentence that we can determine its logical place as name or predicate, and so determine the place of its content as concept or object. (Kremer 2010, 241)

Kremer highlights Frege's characterisation of the constituents of sentences in terms of the unities in which they occur as the basis for his ascribing them various logical properties. Frege's type distinctions, then, presuppose the unities in which they enter, and are not capable of explaining that unity. Linsky also observes that there is a relationship between Frege's context principle and his type distinctions where he remarks that 'Frege's contrast between the completeness of names and objects and the incompleteness of functions is best explained in terms of the context principle' (Linsky 1992, 266).

Given the above discussion, it should be clear that while I do not take Frege's metaphor to constitute a solution to the problem of unity, I do not take it to be in tension with the context principle.

Bronzo (2017) argues, as I have done, that if the metaphor of saturation does not serve as a solution to the problem of unity, then it is not in tension with the context principle. Unlike me, however, Bronzo *does* believe that Frege intended the metaphor to play the role of a solution to the problem of unity (2017, 762). What of the passages quoted from Frege in Section 4.1? Bronzo has remarked that he is unable to 'see what else [Frege] could be doing' (2017, 767), than offering a solution to the problem of unity. Recall, Frege says that:

... not all parts of a thought can be complete; at least one must be unsaturated or predicative; otherwise they would not hold together. For example, the sense of the phrase 'the number 2' does not hold together with that of the expression 'the concept prime number' without a link. (Frege 1892a, 193)

In my view this is a statement to the effect that one *needs* both a function and argument for the output of a truth value. This is simply because whole statements are composed, necessarily, of at least one function and one argument. The talk of the need for things to 'hold together' is a description of the inability of two things of the same type to output a truth value on their own. Frege's central concern with the notion of a unity capable of having a truth value leads to his recognising that in virtue of saying something true or false, one *must necessarily* be employing expressions referring to types which are compatible in the hierarchy such that one is of the correct level to serve as argument for the other.

4.3. Extending the metaphor

Some commentators, working on the assumption that Frege's metaphor of unsaturation and saturation *was* taken to be a solution to the problem of unity, have criticised Frege's application of that metaphor as inadequate for its purposes. Frank Ramsey points out that:

The great difficulty with this theory lies in understanding how one sort of object can be especially incomplete. There is a sense in which any object is incomplete; namely that it can only occur in a fact by connection with an object or objects of a suitable type; just as any name is incomplete, because to form a proposition we have to join to it certain other names of suitable type. (Ramsey 1925, 408; see also 403)

The criticism of Frege's metaphor taken as a solution to unity is that it would not be enough for only one type of term to have a unique copulative role; *all* terms must be copulative. Critics point out that, by Frege's own lights, the context principle would have us view all constituents as 'incomplete', in a sense of that word. All words are characterised in terms of unities in which they occur, and are essentially combinatorial. All words are incomplete in that they are not capable of *saying* anything on their own.

Of course, Frege was well aware that words cannot say things on their own. The suspicion therefore is, or should be, that Frege did not take his metaphor to merely express a forgetful version of the context principle whereby only one type of term has been described as contextually dependent. I have, following Ricketts, given an interpretation which I believe *does* capture Frege's metaphor. In support of my view, that Frege does not equate his metaphor with a version of his context principle taken as applying only for predicative expressions, is the following remark made in the *Grundlagen*:

The self-subsistence which I am claiming for number is not to be taken to mean that a number word signifies something when removed from the context of a proposition, but only to preclude the use of such words as predicates or attributes, which appreciably alters their meaning. (Frege 1884, §60)

Here Frege makes it very clear that the self-subsistence of expressions standing for objects which differentiates them from those standing for concepts is not to be taken as a difference

consisting in one's being able to have meaning independently of its contribution to a unity and the other's not. The difference between self-subsistence and the dependence on something else for subsistence is not therefore a difference relating to the capacity for things to require combination with other items in order to express meaningful sentences. It is not, therefore, to the point to criticise Frege's metaphor relating to the asymmetrical dependence of certain types on others on the grounds that it is not consistent with his own context principle. In fact, as I have aimed to demonstrate above, Frege's metaphor is itself reliant on that principle. Dummett puts forward a similar view:

The context principle, as stated in the *Grundlagen*, does not embody the principle of the incompleteness of concepts and relations, if it did, it would be applicable only to predicates and relational expressions, whereas it is stated as holding uniformly for all expressions, whether complete or incomplete. (Dummett 1981b, 377)

Those who *have* taken Frege's metaphor as a description of some version of the context principle have also, therefore, taken the metaphor to explain unity. However, they, like Ramsey, in viewing what they take to be a mistaken version of that principle, have pointed to what would be a natural amendment to that metaphor *if* it were taken to be a solution to unity. Such commentators have suggested that Frege should hold *all* terms to be unsaturated, insofar as all terms are essentially contributions to whole sentences and are incapable of meaning independently of this contributory ability. For instance, Gaskin takes this line:

The context principle requires us to regard all components of the proposition as, alike, unsaturated, if any are, and that we have no reason not to treat such components as (unsaturated) objects, their linguistic counterparts being then (unsaturated) names. (Gaskin 2008, ix)

Furthermore, some commentators (see Johnston 2007) have held that Wittgenstein's view of objects in the *Tractatus* is a view which

embodies precisely this conception of *all* constituents as unsaturated. Linsky for instance says that ‘All of the constituents of the proposition in the *Tractatus* are incomplete’ (1992, 267). In this section I have aimed to argue that Frege’s metaphor is not an explanation of unity. Frege’s metaphor is not a botched restatement of the context principle. For this reason, in my view it is not appropriate to characterise Wittgenstein’s views as amendments to Frege’s comments regarding unsaturation and saturation. It is certainly correct, however, to characterise Wittgenstein’s views as being developed with Frege’s context principle squarely in mind. In the next section I shall aim to demonstrate just how indebted Wittgenstein’s position is to the context principle.

5. Wittgenstein’s Context Principle

In this final section I will focus on Wittgenstein’s notion of an object in the *Tractatus*. I aim to demonstrate how Wittgenstein’s conception of an object is one which embodies a commitment to the context principle. Wittgenstein’s avoidance of the problem of unity, therefore, shares Frege’s top-down approach. Importantly, Wittgenstein remained steadfastly committed to this approach. Frege, by comparison, compromised his avoidance of the problem of unity by adopting the view that sentences were a species of complex proper name.

5.1. Atomism and the *Tractatus*

We saw, above, that Frege deploys the context principle in the *Grundlagen* in order to secure the existence of abstract objects. Frege does, however, state the principle in quite general terms. Wittgenstein deploys the principle in line with Frege’s general prescript, and does not train his attention on abstract objects in particular. As Sullivan points out:

Instead of looking to find it [the context principle] at work in the *Tractatus* answering the question, how are numbers given to us?,

we might look instead to the question, how are objects given to us? (Sullivan 2000, 68)

Despite his focus on expressions referring to numbers, Frege’s principle applies not only to expressions referring to abstract objects, nor does it apply only to expressions referring to objects *simpliciter*. Frege’s context principle applies to all words, including those standing for functions. Wittgenstein’s use of the context principle is no less general than this; however, the word ‘object’ in the *Tractatus* is used in a different sense than it is for Frege. The metaphysical picture which Wittgenstein outlines in the early sections is atomistic in the following sense:

The world is the totality of facts . . . The world divides into facts . . . What is the case, the fact, is the existence of atomic facts . . . An atomic fact is a combination of objects (entities, things). (*TLP*, 1.1, 1.13, 1.2, 2, 2.01)

A non-atomic fact is expressed by a non-elementary proposition. Non-elementary propositions are produced by performing operations on elementary propositions. Elementary propositions express atomic facts. As above, an atomic fact is a combination of objects. Objects are *entities* or *things*. This is vague, but deliberately so. *All* non-atomic facts are, ultimately, composed of atomic facts (Morris 2008, 31). *All* atomic facts are combinations of objects, and, importantly, are *only* composed of objects. Wittgenstein’s notion of an object, then, has objects as the atoms of the world. For Frege, objects are the referents of singular terms; objects are individuated by their capacity for being self-identical. The *Tractarian* category of objects, though, is one which exhaustively captures the constituents of atomic facts. There are no constituents of atomic facts which are not objects. Frege’s notion of an object was one of a category alongside a variety of others, all of which were capable of being basic constituents. For Wittgenstein, to be a basic constituent just is to be an *object*. Whether the basic constituents are all, in the end, Fregean self-subsisting entities, is a further question and not one which I will

answer here. Whether these ultimate constituents are particular or universal has been a source of ongoing discussion in the literature. I will not attempt to weigh in on that debate. Frege's context principle is general in that it applies to all words regardless of their type of meaning. Wittgenstein's context principle is no less general, he simply takes the notion of an object to include all of the possible basic constituents of atomic facts, exhaustively. Wittgenstein's notion of an object is general. As Johnston says:

Tractarian objects do not occupy a place in a Tractarian variety of entities of reference comparable to the place occupied by Fregean objects in the Fregean variety of entities of reference. (Johnston 2009, 146)

Whatever type objects turn out to be, two things can certainly be said of them. Objects are essentially combinatorial, and they are simple.

5.2. Dependence and independence

Having described objects also as *things*, Wittgenstein makes the following characterisation of them: 'It is essential to a thing that it can be a constituent part of an atomic fact' (*TLP*, 2.011). I aimed to establish, above, that for Frege it is essential to a word that it be contributory to a unity. Moreover, I described Frege's ontological commitments as similarly essentially contributory. Words cannot be understood as capable of having meaning, and therefore cannot be understood as words at all, independently of their contributory capacity. It is written into the notion of what a word is that it combines with others in order to express statements. Wittgenstein clearly holds that his conception of an object is also one of a notion which cannot be characterised independently of its contributory capacity. It is *essential* to a thing's being an object that it can combine with others in order to form atomic facts.

The essentially combinatorial nature of an object is a conception which results from the priority of atomic facts over their

constituents. If the characterisation of what it is for something to be an object makes essential reference to wholes of which those things are a part, then the whole can be said to be explanatorily prior.² What it is for something to be an object is explained *in terms of* atomic facts of which objects are constituents.

Here we should note that although Wittgenstein's objects are construed as essentially the constituents of atomic facts, objects are not essentially the constituent of any *particular* atomic fact. Objects are essentially *possible* constituents of a fact. What it is for something to be an object is that it be the possible constituent of a fact. Any configuration of objects is a possible, and indeed actual, fact (2.0122). The *notion of object-hood* is dependent on *the notion of an atomic fact*, however, atomic facts are themselves also dependent on the actual, pertaining configurations of objects.

Wittgenstein's adoption of Frege's context principle comes to an adoption of a general top-down approach to unities, whereby

²I have been placing great weight on the relation of dependence which runs between sub-propositional constituents and wholes of which they are a part. An anonymous referee has made the point that a relation of dependence conceivably runs in both directions. Sub-propositional constituents are indeed essentially constituents of unities, however it is also true that unities are functions of their parts. The very plausible principle of compositionality says that sentence meaning is a function of word meaning. It is certainly not my intention, in emphasising the priority of wholes over parts in a particular direction, to claim that parts do not play any role in determining the nature of unities in which they figure. I am not, for instance, endorsing Hans Sluga's (1975) view that Fregean thoughts are unarticulated, and that any divisions between thoughts into parts is a convenience wholly imposed by ourselves. Similarly, Michael Resnik (1976, 137) held that the context principle provided the means to avoid the problem of unity by affording such a degree of priority to thoughts that he construed sub-propositional constituents as posterior abstractions, with such little status that their unification was unproblematic, merely because there was nothing in fact to unify.

I do not have the space here for an extended treatment of the relationship between the principles of context and compositionality, hence my emphasis on one particular direction of priority. See Dummett (1981a, 4), and Gaskin (2008, 189, 254–58) for formulations of the context principle which are not in tension with the principle of compositionality.

their constituents are posterior to those unities. Wittgenstein emphasises this combinatorial nature where he says that:

Just as we cannot think of spatial objects at all apart from space, or temporal objects apart from time, so we cannot think of *any* object apart from the possibility of its connexion with other things.

If I can think of an object in the context of an atomic fact, I cannot think of it apart from the *possibility* of this context (TLP, 2.0121).

Here we can see that the possibility of combination into a unity is essential to any object. For Russell, the possibility of a term's combination into a unity was, if present at all, entirely accidental. If a thing did turn out to be able to combine with others, this ability would be explained in terms of an essential nature characterised quite independently of that ability. For Wittgenstein this possibility of combination is an 'internal quality' (TLP, 2.01231); 'The possibility of its occurrence in atomic facts is the form of the object' (TLP, 2.0141). Combination can only be an internal, or essential, quality of a thing if that thing is in some sense *dependent* on the notion of a combination, if combination is inseparable from the conception of that thing. The notion of a combination, a unity, is a notion on which that of an object depends for its essence. Frege did not have to explain the construction of propositions out of independently available constituents because he was not committed to any such notion of an independently available constituent. Wittgenstein, likewise, does not have to explain the unity of an atomic fact. The notion of an atomic fact is a given; the notion of object-hood is dependent on that of an atomic fact. Unity is not to be explained by the notion of an object; the notion of an object presupposes that of a unity. Indeed, Wittgenstein appeals to the essential nature of a word in a justificatory parenthesis: '(It is impossible for words to occur in two different ways, alone and in the proposition.)' (TLP, 2.0122). We have seen that Frege expressly champions a conception of what it is for something to be a word from which this parenthesis follows as a consequence.

Wittgenstein says that:

In the atomic fact objects hang one in another, like the members of a chain. (TLP, 2.03)

Objects do not require further objects to combine them. Objects hang *in* one another, without any additional binding agent. If this were not the case, a version of Bradley's regress would beckon. If objects combined into unities via the application of a further object, this further object would itself seem to require yet another object to combine *it* with the original constituents. Instead, objects are *all* essentially copulative. No particular item is individually responsible for the unity of an atomic fact. This is not to say, though, that objects are responsible for unity through a shared weight of responsibility, so to speak. Wittgenstein's talk of links of a chain is not itself an *explanation* of unity, it is a description of a particular conception of an object. This conception is itself a consequence of a view for which the problem of unity does not arise. Objects are *not* responsible for unity. The notion of a unity is prior, it is a given, through which we come to an understanding of object-hood. Objects hang in one another, objects are links of a chain. Unlike the links of a physical chain, however, the links of a logical chain possess no other nature than their being links of chains. Logical links do not have an essential nature which can be separated from their contribution to the chain. Logical links are characterised *wholly* in terms of their being links. A physical link might be described as having a particular material structure or shape. This shape coincidentally allows that item to perform a certain role in constructing chains. A logical link, an object, is not like this. A logical link is *nothing but* the link of a possible chain. The link is characterised only in terms of its being a member of a chain. Several objects do not *explain* the unity of a logical chain in virtue of their being able to hang in one another; they are able to hang in one another in virtue of being members of a chain.

5.3. Names

Wittgenstein says that: 'The name means the object, the object is its meaning' (*TLP*, 3.203), and: 'The elementary proposition consists of names. It is a connexion, a concatenation, of names' (*TLP*, 4.22). Given our characterisation of objects as the simple, basic constituents of the world, in whose shifting configuration change consists, it is clear that Wittgenstein's use of the word 'name' does not capture our everyday understanding of that word. What does not refer to a simple is not a name; this is a technical term. Names, for Wittgenstein, have reference. Names refer to objects. Since objects are simple, 'Names *cannot* be taken to pieces by definition' (*TLP*, 3.261). An elementary proposition expresses a sense partially in virtue of its constituents referring to objects. An elementary proposition is capable of representing anything only if its constituents have reference:

The representing relation consists of the co-ordinations of the elements of the picture and the things. These co-ordinations are as it were the feelers of its elements with which the picture touches reality. (*TLP*, 2.1515)

We saw that, for Frege, a sentence is capable of a truth value only if its constituents refer. A similar view is true for Wittgenstein; a proposition only has sense if its constituents refer. Furthermore, Frege took the truth of a statement, *in order* to establish that its constituents had referents. Wittgenstein does not take an elementary proposition's *truth* in order that he establish its constituents refer; he does take its having *sense* to establish that its constituents refer. If a proposition successfully expresses the conditions under which it is true or false, then its constituents may be taken to refer to objects. Hide Ishiguro described Wittgenstein's position:

The *Tractatus* view is that if one uses names in propositions and one understands the syntactical role they play, then the proposition would not have a definite sense *unless* the names obtained a definite reference . . . This identification need not be done in the presence of

the object. Even when the object is a perceptible one it need not be present. The object may not even be a perceptible one at all . . . We can learn what ' π ' refers to and know that it is an unterminating decimal although we cannot perceive numbers . . . Russell believed that if we understand what a word 'means', we should either be able to describe it or be acquainted with it. We can only learn the meaning of a logically proper name by being acquainted with the object . . . But there is no reason to believe that Wittgenstein, who did not require that names have reference or meaning independently of this use in propositions, shared this view. (Ishiguro 1969, 29–30)

Ishiguro's description of Wittgenstein's views, here, echo the way in which we saw Frege making use of the context principle in order to account for how abstract objects are given to us. This description is not focused only on those items we can neither intuit nor perceive, but clearly applies to all objects. Ishiguro is clear that, for Wittgenstein, we are able to establish that a name refers, if we are able to understand a proposition which says something *about* that name. We are not able to acquire any understanding of the referent of a name in advance of propositions which *say* something about that name. Dummett describes Frege's approach in a very similar way:

To regard the referent of a proper name as its bearer, the object which we use it to talk about, does not entail that we discriminate the object in advance of learning to use the name . . . it does not entail that we have any knowledge of the object in advance of knowledge *about* it and in advance of being able to say things about it by using the name in sentences. (Dummett 1981b, 347)

All of this is by way of rejecting any conception of Frege as an 'epistemological atomist', such as Russell was. Clearly there is a great deal of commonality between Frege and Wittgenstein's approaches here. Constituents are not construed as independently available, or prior to our understanding unities which say something about them. Wittgenstein remarks that:

The substance of the world *can* only determine a form and not any material properties. For these are first presented by the proposi-

tions—first formed by the configuration of the objects. Roughly speaking: objects are colourless. (*TLP*, 2.0231–2.0232)

Material properties are a result of configurations, *combinations*, of objects. To attribute to anything a material property is to express a configuration of objects; un-configured objects are ‘colourless’. One could not come to perceive anything about an object without understanding that object’s being combined with others. One does not understand an object, one understands something about an object. This goes just as much for items of perception as it does for mathematical objects. Perception does not take place in advance of language. Language facilitates our understanding of objects, it facilitates our recognition of something *as* an object. To perceive is to perceive some *thing*, but our notion of *thing-hood* does not precede that of unities in which they figure. Dummett says this of Frege’s use of the principle:

The objects which serve as referents cannot be recognised quite independently of language: it is only because we employ a language for the understanding of which we need to grasp various criteria of identity, *both for objects identified by means of names and for those identified ostensively by means of demonstratives*, that we learn to slice the world up, conceptually, into discrete objects. (Dummett 1981a, 407; emphasis added)

The context principle, therefore, applies to concrete objects, as well as abstract ones. Both Frege’s and Wittgenstein’s context principles are, as I have said, quite general in their application.

Names, for Wittgenstein, have reference. Propositions express things in virtue of representing a possible combination of the objects for which those names stand, and are true just in case the objects which those names refer to, do in fact stand in the combination so expressed. Propositions do not refer, for Wittgenstein, but they do express a sense; propositions express a *possible* fact. This is a point of departure from Frege’s mature period, and an important one. Frege, in this period, took sentences to have both sense and reference. In *Grundgesetze* Frege held that sentences

referred to objects, namely ‘the True’ or ‘the False’. Frege makes this point when he says:

An object is anything that is not a function, so that an expression for it does not contain any empty place. A statement contains no empty place, and therefore we must take its *Bedeutung* as an object. But this *Bedeutung* is a truth-value. Thus the two truth-values are objects. (Frege 1893, 140)

Frege, here, appears to be basing his view that sentences refer to objects upon a previously available notion of an object, consequently concluding that sentences fulfil this criterion. Such a move does seem strange, given that Frege’s previous conception of an object is itself one which makes essential reference to sentences with constituents standing for objects, namely identity statements. Frege appears to be construing sentences as referring to entities which themselves are construed in terms of sentences expressing them. Either Frege held to this circularity, or he had by this point abandoned the essentially contextual characterisation of objects. In other words, Frege appears to have abandoned the context principle. Wittgenstein also highlights this move on the part of Frege: ‘For Frege the propositions of logic were names’ (*TLP*, 5.02).

Dummett is very critical of this move on the part of Frege, describing it, mildly, as a ‘retrograde step’ (1981a, 7), more disparagingly he says that ‘this ludicrous deviation is prompted by no necessity, but is a gratuitous blunder’ (184). Dummett says that Frege . . .

. . . assimilated sentences to complex singular terms, regarding them as standing for truth-values in the same way that complex terms stand for objects of other kinds . . . It was Frege’s adoption of this new doctrine which, presumably, was responsible for the failure of the thesis, so heavily emphasised in the *Grundlagen*, that a word has meaning only in the context of a sentence. (Dummett 1981a, 7)

If one holds to the context principle, that words have meaning only in the context of a sentence, but also assimilates sentences

themselves to types indistinguishable from sub-sentential ones, the worry emerges that sentences themselves would require a context in order to have meaning. A satisfactory further context would never be forthcoming, for each whole stands for an object on this view, and itself requires for its meaning a *further* context. To make such a move, to characterise whole sentences in such a way as to have them behave as names, is to fail to recognise that sentences have meaning in virtue of the meaning of their components, but are not themselves components. Sentences are entirely different from sub-sentential constituents. Sentences can *say* something; sentences can 'effect a linguistic act' (1981a, 7). Frege's deep insight was of the role of whole sentences as those things which other constituents are characterised *in terms of*. To dissolve this sharp distinction between sentences and constituents undermines the applicability of the context principle, on pain of the regress mentioned, and therefore undermines what was a fundamental cornerstone of Frege's approach. As Dummett says:

The context principle, however, is in a different case, precisely because a cardinal thesis of Frege's mature doctrine, the thesis that sentences are, logically, just a particular kind of complex proper name, is, if not formally inconsistent, at least in great tension with the principle that affords a unique logical role to sentences. (Dummett 1981b, 378)

Wittgenstein did not hold that propositions had a reference.³ Wittgenstein did not assimilate whole propositions to complex

³Frege's notion of sense is very often understood as the mode of presentation of a referent. For this reason, it is often held to be a problematic position which says that one can have sense without reference, a mode of presentation of nothing at all. I have been arguing that Wittgenstein's propositions express a sense but not a reference. An anonymous referee has pointed out that Wittgenstein's making this move is indeed consistent with the context principle, but is in tension with the conception of sense as a mode of presentation. The question remains, what then is Wittgenstein's conception of sense?

It is imperative that Wittgenstein does not construe the sense of a proposition as anything which is itself contextually defined. Wittgenstein says this:

proper names; he maintained a sharp distinction between the constituents of an elementary proposition and the proposition itself. Frege held that sentences stand for objects, namely truth values. Frege seems to have abandoned his characterisation of objects as essentially contextual and instead held to a negative view of objects; anything which is not a function is an object. Since sentences are not functions, they appear to fulfil this criterion, consequently Frege assimilated sentences to complex proper names. As we saw, Wittgenstein's conception of an object is not that of Frege. Wittgenstein tells us that objects are both essentially combinatorial and simple. Propositions are, by definition, not simple. Wittgenstein is not bound to the assimilation of propositions to sub-propositional constituents. He does not hold to a particular negative criterion of a kind of sub-propositional constituent which propositions also happen to fulfil. Wittgenstein characterises objects and propositions in ways in which there will never be a danger that one might fulfil the criteria of the other. Of course this is not a happy coincidence, it is a result of Wittgenstein's holding to the deep insight which Dummett describes of Frege, namely that of the centrality of unities as things which 'play a unique role in language' (Dummett 1981a, 6).

In order to say "*p*" is true (or false) I must have determined under what conditions I call "*p*" true, and thereby I determine the sense of the proposition. (TLP, 4.063)

The sense of a proposition is a truth-condition. Since truth-conditions are not themselves elements which make essential reference to wholes of which they are a part (they are not the reference of a sub-propositional element), Wittgenstein avoids tension with the context principle. I take it that this is Wittgenstein's conception of sense.

Importantly, Wittgenstein did not hold that one can have sense without reference. A proposition only expresses a truth-condition if all of its elements refer. The failure of the name to refer results in the failure of the proposition to have sense. A proposition expresses its sense in virtue of its elements all having referents. The sense of a proposition is the condition under which it is true; it is the expression of the possible configuration of its elements' referents.

The proposition expresses a sense:

Only facts can express a sense, a class of names cannot. (*TLP*, 3.142)

Only unities are capable of expression. On Wittgenstein's view, as we have seen, a proposition has meaning, expresses a sense, in virtue of its representing objects as combined in a certain way. Names standing for those objects are not capable of being expressed independently, in isolation. Names standing for objects are the elements of an elementary proposition; the configuration of those names, the structure, expresses the possibility that objects for which those names stand are so configured. Configuration requires a plurality of things to configure. Names do not have a sense, but contribute to a proposition's having one. Wittgenstein's approach is one which stakes out a relationship *between* the reference of certain expressions and the sense of unities in which they occur. A proposition has sense if its elements refer. A proposition is not itself an element, it does not have reference.

To assimilate propositions to names would, on Wittgenstein's view, make propositions inexpressible on their own, an absurdity:

States of affairs can be described but not named. (Names resemble points; propositions resemble arrows, they have sense.) (*TLP*, 3.144)

Wittgenstein clearly distinguishes names from propositions; Frege failed to maintain this distinction. In the *Tractatus* Wittgenstein avoids this problematic manoeuvre of Frege's and in doing so maintains the unique role of unities as those items capable of expression. The top-down approach which involves the priority of whole sentences over parts is difficult to maintain on the view that sentences are logically indistinguishable from their parts. Moreover, it is not clear what any other systematic attempt to distinguish sentences from constituents could be if not a logical one, obviously morphology will not do the job. As a result,

Frege's avoidance of the problem of unity was compromised as long as he held to the view that sentences were complex proper names. Wittgenstein's avoidance of the problem of unity was, by comparison, resolutely top-down.

6. Conclusion

I have aimed to describe the problem of the unity of the proposition as pressing for Russell due to certain commitments of his which Frege and Wittgenstein did not share. Russell held that all entities were 'terms'; independent and possessing an essential nature which makes no reference to unities in which they might figure. The combination of terms is, if anything, an accidental capability for terms. Russell does not hold the constituents of truth-evaluable items as being essentially combinatorial. In contrast, both Frege and, following him, Wittgenstein, construe their conception of sub-propositional constituents as essentially combinatorial. To make this move, to 'write into' (Johnston 2007, 241) the nature of a constituent a copulative ability, is to adopt a top-down approach. If constituents are essentially combinatorial, a characterisation of them must make essential reference to the combination itself. The combination, the unity, is prior in the sense that constituents depend on that unity for their very nature. Frege and Wittgenstein do not construct truth-evaluable items out of independently available constituents. The notion of a constituent is one derived from unities, unities which are prior to constituents in order of explanation. There is no problem of unity on the top-down approach to be solved, it is avoided entirely. Furthermore, I have aimed to establish that Frege's metaphor is not a solution to unity, and that the extension of this metaphor to Wittgenstein is therefore not appropriate. Lastly, I argued that Frege compromised this top-down approach by assimilating sentences to proper names in his mature philosophy. Frege abandoned his characterisation of objects as essentially contextual. Wittgenstein, however, did not hold that proposi-

tions had reference, and was not, therefore, led to hold this position. Wittgenstein maintained a distinction between unities and their constituents whereby propositions are uniquely construed as capable of expressing sense. Wittgenstein, though clearly indebted to Frege's context principle, held to it more steadfastly than did Frege himself.

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