

## Russellian and Wittgensteinian Atomism

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The distinct logical atomisms of Russell and Wittgenstein represent the origin of much that is characteristic of analytic philosophy. They inaugurate the project of logical analysis of ordinary propositions, and provide the first general articulation in the analytic tradition of the connection between the logical form of meaning and the overall structure of the world. For both thinkers, this connection depends on the atomistic doctrine that there is a class of simple things from which everything else is composed, or upon which the existence of everything else depends.<sup>1</sup> But there are deep and decisive differences between Russell's way of understanding this claim and Wittgenstein's. For it is well known that, whereas the Russell of *The Philosophy of Logical Atomism* has a substantial view of the nature of at least some simple objects and the possibility of our knowing of them, the *Tractatus* has little to say about the actual nature of simples and entirely ignores epistemology. An equally prominent difference is that whereas Russell does not believe himself to be in possession of, and several times expresses his doubt of the possibility of, an *a priori* argument for the existence of simples, Wittgenstein gives just such an argument.<sup>2</sup>

1. Lycan (1981), p. 208, suggests this framing of the atomist thesis. It is true that Wittgenstein's atomism has seemed to some to be, in some more or less specialized sense, *purely* logical and, as such, metaphysically noncommittal. The possibility of a metaphysically noncommittal interpretation of the Tractarian doctrine was especially important to the anti-metaphysical project of the logical positivists. But from today's perspective, it is not at all apparent that this is the only way to read the *Tractatus*, and its *prima facie* metaphysical claims about the large-scale structure of the world both invite comparison with Russell's own explicitly metaphysical system and comprise in their own right a sophisticated and strikingly original vision of the joint determination of the limits of language and the limits of the world. Though the *Tractatus*' many statements about the nature and structure of the world must certainly be read subject to the caveat that these claims, like all the claims of the book, are, strictly speaking, meaningless, still they *are* claims, and as such deserve evaluation as much as anything that the *Tractatus* says.

2. I shall sometimes speak of the existence of ontological simples even though Russell and Wittgenstein agree in holding that the proposition "*a* exists" is

In this essay, I argue that these two differences between Russell's atomism and Wittgenstein's are deeply and decisively correlated, and that their correlation has important consequences for the subsequent development of analytic philosophy. In particular, their connection marks the true depth of the difference between Russell's primarily epistemological project and Wittgenstein's primarily metaphysical one, revealing that, despite their significant agreement on methodology, the two philosophers' styles of analysis presuppose strikingly divergent pictures of the nature of philosophical discovery. I begin with an investigation of the standing of Russell's project with respect to Wittgenstein's *a priori* argument for the existence of ontological atoms. The analysis not only shows that Russell himself could not have accepted any argument of this kind, but also suggests that no primarily epistemological atomism can rely on or even include a general *a priori* proof of the existence of the atoms it seeks to describe. The implications of this difficulty, I argue, are moreover not limited to the philosophies of Russell and Wittgenstein themselves, but should indeed be considered decisive for the subsequent development of analytic philosophy. For while Russell's atomistic project already includes, in nascent form, the main elements of the verificationism characteristic of logical empiricism, Wittgenstein's atomistic project, properly understood, has no tendency to produce verificationism, and indeed can be seen as inaugurating an entirely separate tradition of logical analysis that has nothing to do with epistemology or epistemological criteria for meaning.

In the first and second sections, I draw some needed distinctions and review Wittgenstein's *a priori* argument for logical atomism. With this in place, I consider, in the third section, whether Russell could have accepted Wittgenstein's argument while retaining the distinctive spirit of his own version of logical atomism. I conclude that he could not; his empiricism and his focus on epistemology demand that Russell deny one of its key premises. In the fourth section, I consider whether a more general theory than Russell's, one that does not rely on the existence of sense-data, could be made

meaningless when *a* is the name for a simple. If this poses a problem for the statement of the thesis of atomism, the thesis that ontological simples exist may be replaced with the thesis that all other things are ontologically dependent on a particular, privileged class of things that has more than one member in accordance with the definition of 'ontological atom' set out below.

consistent with Wittgenstein's argument while maintaining a specifically epistemological bent. I conclude again that it could not; the contradiction of Russell's theory with Wittgenstein's argument does not result from the specific doctrine of sense-data, but will be present for any atomism that primarily asks after the sources of our knowledge. Considerations introduced in the fifth section ratify the general conclusion that a primarily epistemological atomism cannot be made consistent either with Wittgenstein's argument or with any other good argument for logical atomism as an ontological thesis. Nevertheless, it is significant that even if a particular atomistic picture cannot be established metaphysically, it may still guide a useful program of analysis. In section six, I consider the differing implications of Wittgenstein's and Russell's atomisms for meaning, verificationism, and the possibility of producing a complete analysis of ordinary-language propositions. Finally, the last section abstracts from this some more general considerations about meaning, knowledge, and the nature of logical analysis.

## I

Following Lycan (1981), it is helpful at the outset to distinguish among three distinct types of simple objects relevant to the analysis of the foundations and implications of logical atomism. For Russell as for Wittgenstein, the primary method of philosophical elucidation is logical analysis. One significant component of analysis will be the elimination of references that contain concealed descriptions in favor of propositional functions that display all the terms of these descriptions.<sup>3</sup> If the process of analysis terminates, none of the names that remain will any longer conceal descriptions; they will be *genuine* or *logically proper* names or variables replaceable by them.<sup>4</sup> In accordance with this methodology, we may define 'logical atoms' as follows:

*Logical Atoms* are the bearers of such names as appear in a fully analyzed sentence.<sup>5</sup>

3. Russell (1924) (henceforth: *PLA*), p. 116 *passim*.

4. *PLA*, p. 58 and p. 118, and *Tractatus Logico-Philosophicus* (henceforth: *TLP*), 3.24, where Wittgenstein apparently endorses Russell's Theory of Descriptions.

5. See Lycan (1981), pp. 207–210, for equivalents to these definitions.

Russell couples, however, his logical and ontological atomism with an empiricist epistemology, holding in *The Philosophy of Logical Atomism* and *Our Knowledge of the External World* that knowledge of the meaning of some words rests on immediate knowledge of, or acquaintance with, certain particulars.<sup>6</sup> Our knowledge of complex facts, by contrast, is at least sometimes not directly by acquaintance; it may be mediated, perhaps by descriptions.<sup>7</sup> However objects are known, there is, for Russell, some class of objects that are known primarily. 'Epistemological atoms' may therefore be defined as follows:

*Epistemological Atoms* are entities which are known directly and immediately, without inference from prior knowledge of the existence of entities of any other kind.

Given these definitions, it is *prima facie* plausible, at least given one particular picture of analysis, that all logical atoms are epistemological atoms. For suppose  $x$  is not an epistemological atom. Then our knowledge of it is justified by inference from knowledge about some epistemically prior entities,  $E$ 's. Then a sentence about  $x$  should be replaceable by a formally equivalent sentence mentioning only  $E$ 's. But if this is the case, then  $x$  is not the bearer of such a name as appears only in a fully analyzed sentence; therefore it is not a logical atom. This shows that if  $x$  is not an epistemological atom, it is not a logical atom. It follows by contraposition that if  $x$  is a logical atom, it is an epistemological atom.<sup>8</sup>

Conversely, given Russell's epistemology, it is even more plausible that all epistemological atoms are logical atoms. Given that we are acquainted with some object, it is possible to give it a name by ostension; since our knowledge of the object does not depend on prior knowledge of a more epistemically fundamental sort, its name is not further analyzable. Therefore it is a logical atom.<sup>9</sup>

We may therefore probably grant Russell the identity of logical with epistemological atoms; and if we accept either that analysis is possible or that some objects are known non-inferentially, we have good reason to accept the existence of both. But the real interest of the doctrine of logical atomism is ontological. That language divides into simple elements, or that our knowledge does so, is an important

6. *PLA*, p. 54.

7. *PLA*, p. 55.

8. The argument is taken from Lycan (1981), p. 212.

9. The argument is taken from Lycan (1981), p. 217.

and philosophically interesting discovery; but neither establishes that the world contains a class of simple things. To get this result, we shall need to consider a third class of atoms:

*Ontological Atoms* are objects such that all other objects are composed of them, and such that all other objects are ontologically dependent on them. In other words, if ontological atoms did not exist, nothing else would, but not conversely.

I shall take it that an argument for logical atomism succeeds if it can establish the equivalence of logical or epistemological atoms with ontological atoms. Our conclusions so far have suggested a plausible connection between language and knowledge, but since logical atomism is a doctrine about what exists and not a theory of meaning or epistemology, it must also be able to draw a connection between language or knowledge and the world. Wittgenstein's *a priori* argument for logical atomism attempts to draw such a connection on quite general grounds concerning the possibility of meaning itself. Having clarified the various senses of 'atom', we are now prepared to consider that argument in detail.

## II

Wittgenstein's argument for atomism is given at *Tractatus* 2.021 and the subtended remarks:

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

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

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

Given these premises, it is easy to see how the argument can be completed. It has the form of a two-staged *modus tollens*: since it is after all the case that we can draw true or false pictures of the world, a proposition's having sense must (by contraposition on 2.0212) never depend on the truth of another proposition. Therefore, by contraposition on 2.0211, the world has substance.<sup>10</sup>

10. The form of this reconstruction is suggested by Griffin (1964), p. 65.

The argument is valid, but it is not immediately evident that its premises are true. Why should it be the case that the nonexistence of simple objects would make the sense of a proposition depend on the truth of another? The answer is given, and apparently endorsed, by Russell himself, in his introduction to the *Tractatus*:

The assertion that there is a certain complex reduces to the assertion that its constituents are related in a certain way, which is the assertion of a *fact*: thus if we give a name to the complex the name only has meaning in virtue of the truth of a certain proposition, namely the proposition asserting the relatedness of the constituents of the complex. (p. xiii).

If there were no simple objects, then not only descriptions but also names would refer to complexes. But if a name referred to a complex, it would be equivalent to the assertion of the fact that its constituents are related in a certain way. This assertion would be either true or false; and then whether the name, and the propositions in which it figures, had a sense would depend on the assertion's truth-value.

This much justifies the claim of 2.0211. The full argument will now stand if the second premise, that in this case there would be no way to draw a true or false picture of the world, can also be established. A possible basis of this second premise is suggested by *Tractatus* 3.23:

The requirement that simple signs be possible is the requirement that sense be determinate.

Since simple signs are names (3.201), Wittgenstein is here claiming that if there are no names, sense is indeterminate. It may seem that the reason for this is that the sense of a description presupposes the sense of one or more names. For since descriptions presuppose names, names cannot also be descriptions if sense is to be determinate; otherwise the analysis of a description would lead to a bottomless infinite regress that nowhere gives any sign a meaning. But signs do have meanings, so there must be no such regress. By this, we may apparently conclude that there are indeed simple signs that have meanings.<sup>11</sup>

Putting the argument this way fails, however, to establish the needed conclusion, that there are simple objects. As stated, the argument demonstrates that there must be some signs (*perhaps* the ones that logical analysis reveals as simple) that do not depend for

11. See Griffin (1964), pp. 66–67, for one version of this interpretation.

their meaning on other signs; this is sufficient to block the infinite regress that would make sense indeterminate. But merely blocking a regress of meaning does not suffice to forge the necessary link between logic and ontology. For although the argument as stated establishes that there must be *logically* simple signs, it fails to establish that these signs signify *ontological* simples. It is entirely consistent with the argument as it stands that a simple sign can get its meaning by standing for an ontological complex. If this were the case in general, sense would be determinate because all meaningful propositions would be analyzable into meaningful simple signs, but there would be no requirement for ontological atoms to exist.

We improve matters by considering in more detail the implications of the requirement that sense be determinate. To understand a proposition is to know what is the case if it is true (4.024); if the sense of a proposition is determinate, therefore, the proposition is, for any possible situation, either true or false of the situation (4.023). When this doctrine is applied across possible worlds, the connection between determinacy of sense and the existence of ontological atoms becomes evident. As we have seen, if there were no ontological atoms the meaning of a simple sign would rest on the truth of a further proposition asserting the fact that its referent exists; such facts about existence are, in general, contingent. But if a proposition, in order to have sense, required that a contingent fact obtain, then it would not have sense in a possible world in which that fact did not obtain. In such a world, the proposition would be neither true nor false. The requirement that a proposition always show how things stand if it is true would accordingly be violated, and sense would be indeterminate. But sense is, after all, determinate; it is possible for us to form meaningful propositions, and to know in advance of contingent facts what will be the case *if* they are true. Therefore no proposition is not decomposable into symbols that refer to bearers whose existence is a further fact. All propositions are decomposable into symbols that refer to necessary existents; these existents are ontologically primary, for their existence is not a fact. Thus, given the assumption that a proposition determines, across all possible worlds, what is the case if it is true, if meaningful propositions are possible, there are ontological atoms.<sup>12</sup>

12. The argument is reconstructed along similar lines by Carruthers (1990), pp. 99–100, who objects, however, that it contains a fallacy. The fallacy Carruthers finds is a

It is clear that the argument is now capable of establishing the identity of logical atoms with ontological atoms.<sup>13</sup> Take, for instance, a proposition asserting something of an ontological complex. The proposition, if it has sense, could be formed both by individuals in a possible world in which the complex exists and in a possible world in which it does not exist; for even if the complex does not exist, it is possible to imagine that it does. (Anscombe's example, for instance, is 'There is an *x* such that *x* corporately makes laws'; the proposition could be asserted even in a world in which there were no bodies corporate, for it would presumably be possible for the inhabitant of such a world to *imagine* individuals coming together to form them.) But such a proposition may then be false in either of two entirely different ways. It may be false because, although the relevant complex exists, it fails to satisfy the proposition's assertion; or it may be false because the complex does not exist. If it is false in the second way, its falsehood is equivalent to the falsehood of some further facts that are not about the complex itself. If it were always possible for a proposition to be false in *either* of these two ways, sense would be indeterminate because the falsehood of any proposition could depend on further facts. But then it would be impossible to form meaningful propositions that determine how things are if they are true, and how if they are false, without knowing further facts. That this is not the case shows that there are some propositions for which only the first sort of falsehood need be considered; these are propositions containing only simple names whose bearers are guaranteed to exist. Since the existence of these bearers is not a further fact, they are ontological atoms.

conflation of truth *about* a possible world with truth *in* a possible world; for it seems that even if there are no atoms, a proposition formed in our world asserting the existence of a complex that exists in our world but not in other possible worlds would still have sense when applied to those worlds; it would merely be false. The proposition will have sense with respect to all possible worlds even if it is not, owing to the contingent nonexistence of the complex in some particular possible worlds, capable of being formulated by the inhabitants of this world. It is possible that Wittgenstein would not have considered this objection to the point, particularly if he did not interpret modal and counterfactual claims as holding across possible worlds. But even if Carruthers' reconstruction of the argument is right, putting matters this way yields the paradoxical-seeming consequence that some propositions are contingently unformulable in some worlds, a situation which appears almost as undesirable as that some propositions lack sense entirely.

13. The argument of this paragraph is given by Anscombe (1963), pp. 48–49.



## III

With Wittgenstein's argument clearly in view, we may now consider the standing of Russell's logical atomism with respect to it. Could the Russell of *PLA* have accepted the *a priori* argument for ontological atoms, or does his empiricism and his greater attention to epistemology render Russell's atomism inconsistent with any such argument?

Despite his apparent endorsement of Wittgenstein's argument in his introduction to the *Tractatus*, in *PLA* Russell expresses doubt that there can be an *a priori* proof of logical atomism:

I do not take it as a postulate that 'There are many things.' I should take it that, in so far as it can be proved, the proof is empirical, and that the disproofs that have been offered are *a priori*. The empirical person would naturally say, there are many things. The monistic philosopher attempts to show that there are not. I should propose to refute his *a priori* arguments. I do not consider there is any logical necessity for there to be many things, nor for there not to be many things. (p. 48).

The passage suggests that Russell's reluctance to accept the possibility of an *a priori* argument for atomism has its basis in his suspicion of the *a priori* arguments of idealists against atomism. This much accounts for his having failed to discover Wittgenstein's argument for atomism, but it remains to be seen whether Russell's doubt of the possibility of such an argument has any deeper reason than mere prejudice. If it does not, then perhaps we may simply add Wittgenstein's atomism to Russell's to produce a comprehensive logical picture of the world with great range and power. If, on the other hand, the price of a developed epistemology is the inaccessibility of rationalist arguments establishing the form of the world, we may do better to eschew epistemology altogether in favor of a sparer and more explicitly ontological picture, as Wittgenstein himself does.

On one plausible interpretation of Russell's views, it is indeed impossible that he could have consistently accepted Wittgenstein's rationalist argument for the existence of ontological atoms while still maintaining his own empiricist epistemology. Pears (1967) interprets Russell as having believed there to be three kinds of simple signs standing for particulars. First, of course, there are, or may anyway be, simple signs whose denotations are in fact ontological atoms. But there are also, Pears interprets Russell as maintaining, "singular

symbols whose denotations may be treated as simple, in spite of the fact that we know that they are complex; [and] singular symbols whose denotations have to be treated as simple, whether or not they are intrinsically simple.”<sup>14</sup> In other words, in addition to logical atoms that are ontological atoms, Pears maintains, there are logical atoms that we *may* treat as ontological atoms though they are actually ontological complexes, and also logical atoms that we *must* treat as ontological atoms even though we cannot know whether they are actually ontologically simple or complex.

Considerable evidence for Russell’s belief in the first additional sort of logical atoms is indeed present in his lectures. For instance, Russell indicates in lecture VI that although names used in ordinary language usually conceal descriptions, they may nevertheless sometimes be *used as* logically proper names.<sup>15</sup> If “Scott” is used as a logically proper name, it will not subtend a description; but it may be so used nonetheless even though Scott is not ontologically simple. Used in this way, the referent of “Scott” will, then, apparently be one of the class of logical atoms that we may treat as ontologically simple although they are in fact ontologically complex.

*PLA* also contains evidence that Russell believed in Pears’ final class of atoms, those that we must treat as ontologically simple although we cannot know that they are. In the second lecture, Russell explains that although a general predicate such as ‘red’ may be *definable* by a scientific analysis, in this case one involving the wavelengths of light, the existence of the scientific analysis need not imply that the predicate is logically analyzable. What is decisive for the logical analysis, instead, is the conditions under which the predicate can actually be understood:

I have said that ‘red’ could not be understood except by seeing red things. You might object to that on the ground that you can define red for example, as ‘The colour with the greatest wave-length.’ . . . But that does not really constitute the meaning of the word ‘red’ in the very slightest. If you take such a proposition as ‘This is red’ and substitute for it ‘This has the colour with the greatest wave-length’, you have a different proposition altogether. You can see this at once, because a person who knows nothing of the physical theory of colour can understand the proposition ‘This is red,’ and can know that it is true, but cannot know that ‘This has the colour which has the greatest wave-length.’ (pp. 54–55).

14. Pears (1967), p. 118.

15. Pears (1967), p. 49, and *PLA*, p. x.

According to Pears, this suffices to establish that there are logical atoms that we must treat as ontological atoms, since we cannot know that they are not, even though they are in fact not. To show this, we need only imagine the existence of beings whose epistemic constitution is rather different from our own:

For, if the word 'red' can be defined as 'the colour with the greatest wave-length', then, although this definition is not in fact an analysis of the word, it could become its analysis. All that is needed is that there should be creatures endowed with greater powers of discrimination than we possess, so that, when they looked at something red, their visual apparatus would achieve what we can achieve only with the aid of scientific instruments ... So, if the interpretation of them which has just been suggested is correct, [Russell's] logical atoms would not be unsplitable, although we would have to treat them as if they were unsplitable. (pp. 47–48).

On this analysis, therefore, it may be the case that the referent of a general term such as 'red' must be treated by us as an ontological atom, although it in fact is not one, and furthermore it may be the case that it is impossible for us to know that it is not. Our contingent epistemic constitution, and the identification of logical atoms with epistemic atoms, apparently make this situation unavoidable. By considering that the meaning of a term can be identified with our way of knowing its referent, Russell is compelled, on this interpretation, to admit that it is in general impossible to be sure, of a given logical atom, that it is indeed an ontological atom. If there is to be verification of the hypothesis that ontological atoms exist, it will have to come from a different quarter.

If Pears' interpretation is correct, Russell could not have accepted Wittgenstein's *a priori* argument for the existence of ontological atoms. For on Pears' reading, Russell's picture contradicts one of its main premises. On Russell's picture as Pears interprets it, there are some logical atoms that are in fact ontologically complex, although since they are epistemologically simple this cannot be known. Fully analyzed propositions about them contain only the names of epistemically ultimate items; since these are names (and not descriptions), the fully analyzed propositions will have sense only if their referents exist. But since these referents are at least sometimes complex, their existence is contingent and they do not exist in some possible worlds. Formulated in these worlds, where the relevant complexes do not exist, fully analyzed propositions about them lack

sense. So whether some propositions have sense is indeed dependent on a further fact, namely that the relevant complexes exist. But this clearly runs afoul of Wittgenstein's requirement that whether a proposition has sense may not depend on any further fact. If this is true, then Wittgenstein's argument is not just independent of Russell's picture, but actually positively ruled out by it. On this interpretation, there is no way Russell could have accepted the argument. His epistemological theory of meaning, on which a meaning-preserving analysis replaces a proposition with a more epistemologically primary one, bars him from being able to draw the deep connection between meaning and the form of the world that will obtain if an *a priori* argument for the identification of logical atoms with ontological atoms goes through.

If Russell indeed allows that there are complexes that are both nameable and epistemically ultimate, the contradiction with Wittgenstein's picture is in fact twofold. First, the existence of a particular ontological complex is contingent, so the sense of a proposition naming a complex is dependent upon the truth of another proposition in the way that Wittgenstein considered. Second, it is contingent that our epistemic constitution is as it is; other knowers even in our own world may be able to see that some of the items which we must treat as simple are, in fact, complex. The first contingency turns on the claim that we may be acquainted with items that are ontologically complex; the second turns on the further claim that, owing to our epistemic constitution, we will be, in some cases, unable to know of the complexity of an item we treat as simple.

But it may be that Russell did not in fact accept both of these claims; the evidence for his holding them, though undoubtedly present, is limited and isolated. And regardless of what Russell actually believed, it seems possible that if one or both of these claims can be resisted, an empiricist atomism can indeed be made consistent with Wittgenstein's *a priori* argument. To determine the standing of empiricist atomism with respect to the establishment of the existence of atoms, we must consider in more detail the extent to which these two claims are obligatory for a picture such as Russell's.

## IV

Unlike Wittgenstein, Russell believed that at least some particulars are sense-data.<sup>16</sup> Throughout Russell's writing on atomism, sense-data are epistemically ultimate.<sup>17</sup> That they are also, for Russell, logically ultimate is evident from the arguments we have reconstructed identifying epistemological atoms with ontological atoms. Now it may seem to rationalists and later empiricists alike that the doctrine of sense-data is the most unwieldy aspect of Russell's picture; perhaps by sacrificing it we may make the epistemological project consistent with *a priori* arguments for the existence of ontological atoms. There are, indeed, several features of sense-data theories that make them uncongenial to an *a priori* argument such as Wittgenstein's. It is, for instance, a consequence of Wittgenstein's theory that ontological atoms exist *necessarily*; and it would seem to be a consequence of his view that, at least in order that a proposition have a sense at all times, ontological atoms *always* exist.<sup>18</sup> It is difficult to imagine, however, that sense-data exist necessarily even as a type, since even if they can be identified with some of the physical or neurological states of knowers it is difficult to imagine that knowing organisms exist necessarily. And Russell explicitly denies that a particular sense-datum exists at all times.<sup>19</sup> Since the doctrine of sense-data clearly involves the existence of knowing organisms, and since it implies the ephemerality of atoms, perhaps we do better by sacrificing it while still seeking to maintain for our theory an epistemological bent on other terms.

The trouble with this proposal is that it is difficult to see how *any* primarily epistemological atomism can be made consistent with Wittgenstein's argument. A theory may admittedly comprise an epistemological doctrine consistently with the argument if the theory is independently capable of identifying logical atoms with

16. *PLA*, pp. 146–47, and especially *Our Knowledge of the External World* (henceforth: *OKEW*) pp. 83–84. Actually, it is possible that Russell did not take sense-data to be particulars but merely believed that propositions about sense-data such as 'this is red' were atomic *facts* (the language of *OKEW* pp. 62–63 suggests this interpretation); but since Russell also held that, in such propositions, the article is used as a logically proper name (i.e. the name of a simple; *PLA* p. 62), nothing important turns on the distinction.

17. See, e.g., *OKEW* pp. 75–76.

18. *TLP* 2.027.

19. *PLA*, p. 65.

ontological atoms; but this arrangement will make the epistemology largely vestigial and inessential to the atomism as such, since the atomism will be established on purely logical grounds. The alternative is to try to make Wittgenstein's argument consistent with a theory identifying epistemological atoms with ontological ones. It seems unlikely, however, that any such attempt will succeed. The reason is that a primarily epistemological atomism will always identify ontological atoms with such basic things as are knowable; but the boundaries of this class will be contingent, even if the existence of its members is not. Facts about what is knowable are in general dependent on what sort of knowers are around as well as on their ways of knowing. And the class of knowable objects need not coincide with a class of necessarily existing objects. So if the class of objects that are primarily knowable happens to coincide with the class of logical atoms, and hence, by Wittgenstein's argument, the class of ontological atoms, this is at best a happy accident. And the formal properties of the ontological atoms which must exist if Wittgenstein's argument is correct, for instance their necessity and eternality, make it seem quite unlikely that any primarily epistemological theory, particularly any of an empiricist bent, will identify the same class as ontologically primary.

I said near the beginning of the paper that the identification of epistemological with logical atoms is *prima facie* plausible. Wittgenstein's argument apparently establishes the identity of logical with ontological atoms; we have just considered whether a primarily epistemological theory could establish atomism by first identifying epistemological atoms with logical atoms and then availing itself of Wittgenstein's argument to identify logical atoms with ontological ones. The answer seems to be that this strategy fails, since the epistemological atoms will in no case have the properties of the ontological atoms that Wittgenstein's theory identifies. But this seems paradoxical, since epistemological atoms are (*prima facie* at least) identifiable with logical ones and logical ones are, via Wittgenstein's argument, identifiable with ontological ones. How, then, can it be that such epistemological atoms as the epistemological atomist discovers are not identifiable, via logical atoms, with Wittgenstein's ontological atoms? The probable answer is that there really are, or ought to be, two sorts of logical atoms. Epistemological atoms can be identified with the first sort but not the second; whereas Wittgenstein's argument identifies ontological atoms with the second sort but not the first. The

two sorts of logical atom correspond to two distinct kinds of logical analysis; whereas the first kind analyzes a sentence into names for its epistemologically primary constituents, the second kind analyzes into names for ontologically primary constituents. The two sorts of analysis might happen to correspond, but we have seen no reason to believe that they will; indeed, it seems that insofar as the one sort is specifically epistemological and the other ontological, they will not. Neither have we seen any reason why there may not be two largely independent orders of analysis along these lines.

Note that the (brief) arguments employed in section I to establish the identity of epistemological atoms with logical ones both rely on the suppressed premise that a meaning-preserving analysis analyzes a sentence about some set of entities into a sentence about some *epistemically prior* entities. This assumption is perhaps legitimate, given a particular picture of analysis and meaning; it relies on a relatively weak verification principle, to the effect that the meaning of a sentence about epistemically secondary entities is always equivalent to the meaning of some sentence about epistemically ultimate entities.<sup>20</sup> This weak verification principle may be judged admissible, if it is fruitful in producing enlightening analyses; once it is admitted, the identification of epistemological with logical atoms is straightforward. But once logical atoms are identified this way, any further identification of logical atoms with ontological atoms will presuppose the exceedingly *strong* verification principle that what exists ultimately is just what we can know ultimately. It is possible that Russell believed this, but he is certainly not entitled to assume it.

## V

It is probably impossible, then, to make a theory that identifies epistemological atoms with ontological ones consistent with Wittgenstein's argument that logical atoms are ontological ones, or indeed with any argument of the same style. But probably Wittgenstein's argument is not the only possible sort of argument for atomism; perhaps the thoroughgoing empiricist can make his

20. Lycan (1981, p. 211) finds evidence for a similar principle in *OKEW*, where Russell holds that "... if an expected sense-datum constitutes a verification, what was asserted must have been about sense data ..." (*KEW*, p. 89).

argument for atomism along other lines. If there is an argument identifying epistemological atoms with ontological ones directly, then Wittgenstein's style of argument, from logic to ontology, is not necessary. With this in mind, we turn to the question of whether, quite independent of Wittgenstein's argument, Russell had a theory that was primarily epistemological and also capable of establishing atomism.

For the epistemologist who believes that our knowledge of the world is primarily empirical, there are two possible routes to establish atomism as an ontology. He may argue epistemologically that some of those items which are knowable, perhaps the ones that are ultimately knowable, must be ontologically simple. Or he may simply argue that it is an empirical truth, one capable of establishment by observation alone, that there are many ontological atoms. Both strategies are apparently open to Russell; by tracing the fortunes of each we may determine not only how his theory stands but also the general standing of theories such as his.

Lycan (1981, p. 220) suggests, on Russell's behalf, an argument of the first sort, although he concludes that Russell himself could not have accepted it. The argument, for the thesis that all epistemological atoms are ontological atoms, first establishes the contrapositive, that all ontological complexes are epistemological complexes:

Suppose *X* is an ontological fiction, i.e., a complex. Then one's awareness of *X* is mediated by acquaintance with *X*'s proper parts and with the compositional relationship that binds them into a complex. But then one is not simply and directly acquainted with *X* itself, in the requisite strong sense. The mediation of our awareness of *X* comes as near as matters to inference. So, to all intents and purposes, *X* is an epistemological fiction (p. 220).

If we may be aware of ontological complexes, the argument maintains, we must first be aware of their ontologically simple components; we may then treat propositions about the complex as inferences from propositions about the atoms. But then we are not acquainted with ontological complexes in a direct or immediate sense, so ontological complexes are epistemological complexes. By contraposition, then, epistemological atoms are ontological atoms.

Lycan notes, however, that Russell could not have endorsed the argument, since he did not accept its premise that the awareness of ontological complexes must be indirect in the relevant sense. For Russell had written in 1911:



The sense-datum with which I am acquainted ... is generally, if not always, complex. This is particularly obvious in the case of sight ... Whether it is possible to be aware of a complex without being aware of its constituents is not an easy question, but on the whole it would seem that there is no reason why it should not be possible (*Knowledge by Acquaintance and Knowledge by Description* pp. 203–204; quoted in Lycan (1981), p. 220).

It is possible that Russell had, by the 1914 lectures, changed his mind, although the passage we have already discussed, regarding the analysis of 'red,' strongly suggests that he had not. In any case, we may abstract from Russell's specific view in order to ask whether the argument is on its own sufficient to establish atomism.

The argument is valid; so it will go through if its premise is granted. But if the argument is to be successful, the premise – that knowledge of an ontological complex presupposes knowledge of its constituent ontological atoms – must be given a very strong construal that renders it quite implausible. For recall that epistemological atoms were to be items, the knowledge of which does not rest on inference from the knowledge of other items; epistemological complexes are then items, the knowledge of which does rest on such inference. Now the argument under consideration holds that, *since* knowledge of an ontological complex presupposes knowledge of its constituent atoms, knowledge of a complex is in fact *inferred from* knowledge of its constituent atoms. This is necessary if it is to establish the conclusion that ontological complexes are epistemological complexes, i.e. items that can only be known by inference from knowledge of atoms. But it will only be the case if to know a complex is to know *that* it is a complex, and also to know *which* atoms it is composed of. Otherwise it is an open possibility that a complex and its constituent particulars may both be known, but without knowledge of their relation to one another or indeed their status. It would then be possible to know of a complex *C* and its constituents *x*, *y*, and *z*, without knowing that *x*, *y*, and *z* were atoms; and it would also be possible to know *C* and also *x*, *y*, and *z* without knowing the status of any of them or their relations to one another. So if the argument is to succeed, to know an ontological complex must be to know *that* it is an ontological complex, and also to know *which* ontological atoms it is composed of. This amounts to stipulating that the epistemological order mirrors the ontological order; but this is just the conclusion we set out to establish, so it should not figure among the premises of the argument.

The failure of this argument illustrates a formal feature, similar to the one discussed earlier, that will in general prevent primarily epistemological atomisms from establishing the ontological conclusion: epistemological atoms, since they are primarily such items as can be known, are constrained by contingent features of the relationship of the knower to the world, while ontology need not be so constrained. The only way to avoid this constraint is to abstract from contingencies and idealize the relevant knowledge, so that an epistemological atom is defined as an item that is primarily knowable in an idealized sense; but since what is knowable in an idealized sense is just what exists, this just amounts to stipulating the coincidence of epistemology with ontology. Insofar as an atomism is genuinely epistemological, it cannot therefore be specifically ontological. The result seems quite general, and it seems to doom the project of arguing for atomism on primarily epistemological grounds.

It remains open to Russell to choose the second strategy, whereby the ontological thesis of atomism is simply held to be an empirical truth. This strategy comes closest to Russell's official doctrine in *PLA*; it is most consistent with his repeated disavowals of a general argument for atomism and his distrust of *a priori* proofs. It is easy to see that such ontological atoms as can be empirically demonstrated to exist cannot be identical to the changeless and necessarily existent ones that Wittgenstein had in mind. And atomism, if purely empirical, could only hold contingently, not necessarily.<sup>21</sup> Nevertheless, a wholly empirical atomism might do better at handling the data of ordinary life and experience than its rationalist counterpart. Perhaps atomism can be counted as one of the many empirical truths which it is within the scope of common sense and scientific observation to establish.

But if this view is correct, it is difficult to see what remains specifically logical about logical atomism. Putting atomism on a purely empirical basis, at least as "empirical" is standardly understood, would yield not logical but *physical* atomism, the doctrine of reducibility presupposed by scientists in the analysis of matter. Physical atomism makes no commitments as to the logical nature of atoms and has no *prima facie* connection to logical analysis. Since Russell is indeed at pains to argue that his theory does not imply the existence of the atoms invoked in physical explanations, it cannot be

21. I ignore the possibility that atomism is an *a posteriori* necessity in the manner of Kripke (1972).

purely empirical in this sense.<sup>22</sup> More generally, the identification of logical atoms with ontological atoms is plausibly independent of the identification of ontological atoms by observation alone. There is no reason they should coincide, so there is no reason a purely empirical atomism should also be a logical one.

## VI

Russell, we conclude, had no good argument for atomism; and his epistemological focus prevented him from being able to accept Wittgenstein's *a priori* argument. So far as the *establishment* of logical atomism goes, the result heavily favors Wittgenstein's rationalist approach over Russell's empiricist one. But lest anyone become too readily convinced of the superiority of Wittgenstein's style, it is important to notice that Russell's picture of analysis contains certain positive features that Wittgenstein's does not. This comes out most clearly under consideration of the differences between the theories of meaning implied by the two approaches. We saw that for Wittgenstein, whether a proposition has meaning is a matter of whether it has sense; it was considerations about the need for a proposition to have sense in every possible world that generated the *a priori* argument for atomism. The sense of a proposition is, in turn, tied to particular facts via the picture theory of meaning: a proposition's sense depends on which fact it pictures or projects.<sup>23</sup> The meaning of a proposition is therefore abstracted both from how it may be known and what we mean by it. On Wittgenstein's picture, we may be quite wrong about which facts our propositions stand for; their true meanings come out only upon idealized analysis. But neither is there, for Wittgenstein, any guarantee that such an analysis will be possible for us to complete. Since there is no requirement for ontological simples to have any particular nature, we shall never be in a position to establish conclusively that we have reached them in our analysis. Further discoveries about the actual world or new intuitions about possible worlds may at any time defeat the claim that an actually existing analysis decomposes propositions into names for ontological atoms that exist necessarily.

22. see, e.g., *PLA* pp. 133–34.

23. E.g., *TLP* 2.221–2.222.

For Russell, by contrast, meaning is a rather more pragmatic notion. There is always a connection between what a proposition means and how we know it; this connection is what guarantees that Russell can successfully argue for the identity of logical with epistemological atoms.<sup>24</sup> For the argument to succeed, Russell needs only the weak verification principle discussed above, to the effect that the meaning of a proposition about epistemologically secondary entities is equivalent to the meaning of some proposition about epistemologically ultimate entities. The principle is correct so long as we treat meaning as an epistemic notion; and there are good reasons we might wish to do so. Treating meaning epistemologically can bring out features of our knowledge that remain hidden on other styles of analysis. For instance, it may allow us to distinguish the factual content of a sentence from its linguistic form. As Russell discusses, it is a property of propositions and descriptions that it is possible to understand them without having heard them before, so long as one knows the meanings of their constituents and understands the language.<sup>25</sup> This is not, however, the case with logically proper names: to understand these, it is necessary to have direct epistemic access to their objects. This property of propositions is useful in showing that propositions are not names for facts; if they were, new propositions could not, in general, be understood. In addition, it points to a distinction between two different sources of understanding. One is knowledge by direct acquaintance, and the other is knowledge of the rules of language that are capable of generating new meaningful propositions from a stock of understood terms.

The implication of this picture for analysis is straightforward: logical analysis allows us to abstract from the contribution of language in order to reveal the unadulterated contribution of knowledge to the meaning of an understood proposition. The complete analysis of a proposition into the names of epistemically ultimate objects shows what must be known, aside from the rules of language, in order to know that the proposition is true. It follows that even an incomplete analysis may be somewhat enlightening, for it will abstract to some extent from linguistic conventions and reveal more clearly the empirical significance of what is left over. It also

24. Something like this point is argued by Pears (1985), pp. 10–11.

25. *PLA*, pp. 53–54.

follows that we need not worry particularly about the possibility of further analyzability once we have reached the point of epistemically ultimate objects. For once that point is reached, no further analysis can show any more about the meaning of the proposition than has already been shown.

For Russell, then, the possibility of analysis is underwritten by the fact that we have knowledge of the world and that we use this knowledge to generate meaningful propositions about the world. Leaving aside the worry that we may not know *how* we know a proposition, a proposition will therefore be analyzable whenever it is genuinely known. The analysis shows how the proposition is known by exhibiting the epistemically ultimate objects that underlie it. Analysis is thereby guaranteed to be both possible and enlightening; for Wittgenstein it need not be either. Moreover, Russellian analysis stays closer to the data of ordinary language and common sense. Russellian analyses, even simple applications of the theory of description, always aim to show more clearly what we meant by the original proposition; the success of the analysis may therefore be underwritten by agreement, on a commonsensical level, that the analysis shows the meaning of the original proposition more clearly than the original proposition itself did. For this purpose, it is not particularly important that we reach atoms, only that analysis gets us closer to the sources of knowledge and meaning. And its relative lack of ontological commitment actually gives Russell's picture some descriptive advantages over Wittgenstein's as well. For instance, Russell's lack of ontological commitment means that he need not hold, as Wittgenstein does, that simple facts are logically independent.<sup>26</sup> This view, required by Wittgenstein's picture of meaning, was the first substantial doctrine of the *Tractatus* that he was to abandon. The reason Wittgenstein came to find it implausible is that statements of quantity, position, velocity and the like appear to be logically simple, but have many relations of implication to other facts. As was later to happen on a greater scale, the metaphysical requirements of the *Tractatus* came to seem to Wittgenstein unsatisfiable by anything on the level of ordinary language.

Russell's approach, more directly tied to the possibility of the sort of analysis he thought he could achieve, therefore has more potential than Wittgenstein's to underwrite actual analytic projects by

26. This point is suggested by Pears (1967), p. 155. See also Wittgenstein (1929).

separating a proposition's epistemic commitments from its linguistic form. As a substantial overall picture of meaning, however, Russell's view remains at least weakly verificationist; and it is clear that it can easily slide into a more robust and familiar version of verificationism. Russell never makes it explicit that the completed analysis of a proposition reveals its real factual content, leaving linguistic form on one side.<sup>27</sup> The most he is directly committed to is the weak verification principle that the analysis of a proposition into symbols referring to epistemological atoms has the same meaning as the original proposition. But if we combine the two claims, the result is the thesis that the product of a completed analysis, a proposition showing how the original proposition is known, is equivalent to the factual content of the original proposition. This, in other terms, is just the verification principle of Ayer (1936), to the effect that the factual content of a proposition is equivalent to its method of verification. The view is not necessarily Russell's; but it is easy to see how Russell's project supports it. Conceiving of knowledge as our primary mode of relation to facts in the world, Russell's position takes it for granted that the way for an asserted proposition to have meaning is for it to communicate knowledge. Once this assumption is made, verificationism in Ayer's sense follows as a natural consequence.

Wittgenstein's picture has, by contrast, no tendency to support verificationism. There is no sense, for Wittgenstein, in which a proposition's meaning has to do with how it can be known or verified. A proposition's factual content is not its method of verification or our way of knowing it, but simply the content of the fact whose logical form it shares. The analysis of a proposition does not set aside linguistic form to reveal factual content; instead it replaces the proposition's superficial linguistic form with its deep logical form. That a proposition has meaning guarantees that it has a logical form, whether or not we are in a position to discover it. Wittgenstein can therefore allow that a proposition has meaning regardless of whether there is any possible method of verifying it. The process of logical analysis – the clarification of the logical form

27. Russell's remarks about logical form are highly suggestive, at least, of the view that logical propositions have no factual significance; for instance, he says that logical propositions mention nothing (*PLA* p. 43) and that they are like tautologies (*PLA* p. 107). But this does not necessarily imply that factual content is to be identified with something shown at the limit of analysis, as the stronger view would have it.

of our language – is, then, quite independent of a verification theory of meaning.

## VII

Since Russell never in fact claims to have an argument sufficient to establish atomism, our failure to find one in his theory is not particularly surprising. The larger significance of the result, however, lies in its general implications; first that the ontology of logical atomism can be established on rationalist but not on empiricist grounds, and second that the interpretation of logical analysis as primarily epistemological renders the logical atomist unable to establish his ontological conclusion. A logical atomism, having relied upon an *a priori* argument such as Wittgenstein's to establish that there are ontological atoms, may comprise as well a substantial theory about whether and under what circumstances knowledge of them is possible; but it may not identify the basic components of knowledge with the basic components of the universe without ignoring the contingency and possible limitations of particular knowers. Only on the basis of a very strong verification principle can the necessary leap from epistemology to ontology be made. The move from logical atoms to ontological atoms by way of an *a priori* argument, by contrast, requires no verification principle. On its face, this is a surprising and illuminating asymmetry; having seen how the arguments play out in detail, we may well wonder, in general terms, why it holds.

One important answer lies in a formal asymmetry between the general notions of knowledge and meaning themselves. Whereas the sphere of what is actually knowable must always (except perhaps for idealists) be pictured as a limited domain within the world, it is not obvious that the sphere of what is expressible by meaningful propositions is any smaller than the world itself. Thus arguments of the sort we have been considering, which attempt to move from epistemology to general ontology, will always be open to a charge of verificationism; but an argument like Wittgenstein's may take it that the realm in which a proposition has sense is as large as the world, and may then move legitimately from this requirement for the universal determinacy of sense to the requirement of a specific universal ontology.

These formal distinctions point to the true depth of the difference between Wittgenstein and Russell as thinkers, showing that the superficial resemblance between their programs of analysis actually hides deep disagreements in their philosophical motivations and projects. Wittgenstein effectively idealizes meaning, drawing his picture of the form of reality from a consideration of the conditions necessarily fulfilled by any meaningful utterance. Russell and the positivists, by contrast, make meaning a secondary notion, ultimately dependent on knowledge and sensation. Whereas Wittgenstein's project, a species of metaphysics, has a tendency to conceive of language as primary in the constitution of the world, the project of Russell and the positivists starts with our location as knowers and attempts to place knowledge on a firm basis, freeing it from the metaphysical illusions of language. There is sometimes a tendency to run the two projects together. Later thinkers who continue the Wittgensteinian project of clarifying the logical form of language, including both "logical behaviorists" like Ryle and the author of the *Philosophical Investigations*, have sometimes been accused of verificationism, in part because they seem to argue that talk about mental states is meaningless because unverifiable. But we are now in a position to consider that their project is quite different; it is a project of linguistic analysis, directed to liberating the true significance of our words from the obscurities of our superficial interpretations of them, that has nothing in particular to do with knowledge.

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