

THE GENERAL AND THE PARTICULAR: THE ONTOLOGY OF FACTUAL
ATOMISM

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ABSTRACT

A fundamental dispute in ontology is between ‘thing theorists’ and ‘fact theorists.’ The former hold that the world is essentially a world of things while the latter maintain that it is a world of facts or of states of affairs. This thesis explores some implications of the latter ontological view. Among fact theorists there is some disagreement as to what sorts of facts make up the world. Some hold that only particular, or atomic, facts are to be included in our basic account of what there is. Call these theorists ‘factual atomists.’ Others hold that, in addition to the atomic facts there are general, existential, negative, higher-order, or other sorts of facts. Call these theorists ‘factual pluralists.’

This essay responds to one line of resistance that has been offered to factual atomism. Bertrand Russell famously argued that at least one general fact is required, a ‘totality fact’ that sets a limit to the first-order atomic facts. David Armstrong has also argued for the need of such a fact, bolstering Russell’s argument with the requirement of a truthmaker for truths of totality. If Russell and Armstrong are correct, then factual atomism is false. This thesis argues that their arguments are unpersuasive, and when weighed against the arguments against general facts, the balance tips in favor of factual atomism.

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1. Introduction

1.0 Factualism

Ludwig Wittgenstein famously said that the world is everything that is the case.¹ Bertrand Russell claimed that the world contains facts in addition to things.² David Armstrong maintains that the world is a world of *states of affairs*.³ The view which shall be the focus of this project is the one suggested by remarks such as these. According to this view, the world contains only facts and things that are bound up in, or are the constituents of facts. I shall call this view *factualism*, and in these opening pages make it somewhat clearer just what sort of metaphysics its adherents accept.

To say that everything that exists is either a fact or a constituent of a fact is actually to say very little. For one thing, it leaves open just what sorts of facts there are, and what sorts of things are their constituents. Are there facts about persons, principalities, and powers, or do these things get analyzed away into facts about other things? On this issue, I hope to remain relatively agnostic.

The term ‘fact’, as we shall understand it, refers to a complex entity that comes into existence when n things are related by an n -place relation and ceases to exist when these things are not so related.⁴ So, take the case of John’s being related to Mary by means of the two-place *loves* relation. Whenever this is the case, we shall say that there is a fact: the fact that John loves Mary. This fact, we are supposing, has as its

¹ Ludwig Wittgenstein, *Tractatus Logico Philosophicus* (London: Routledge Classics, 2001).

² Bertrand Russell, “The Philosophy of Logical Atomism,” in *Logic and Knowledge*, ed. Robert Charles Marsh (London: Allen and Unwin, 1956).

³ D. M. Armstrong, *A World of States of Affairs* (Cambridge: Cambridge University Press, 1997).

⁴ I use the term ‘relation’ here so as to include monadic, one-place relations or properties. The referents of the term ‘thing’ are purposefully left vague here. I wish to allow that universals, individuals, mereological sums, and so on can all be things in this sense.

constituents, John, the relation of loving, and Mary. We shall refer to such a fact by means of a square bracket notation as follows.

$$[\textit{loves}^2, \text{john}, \text{mary}]$$

This shall represent the fact that John loves Mary. The fact that Mary loves John shall be represented as follows,

$$[\textit{loves}^2, \text{mary}, \text{john}]$$

Similarly, we shall represent the fact that comes into existence when the particulars $\alpha_1, \dots, \alpha_n$ are related by the n -place relation R^n as follows.

$$[R^n, \alpha_1, \dots, \alpha_n]$$

It is important to note that a fact's constituents are not *mereological parts* of it. For, as the case of John's loving Mary makes clear, there can be different facts that have the same constituents. Some find the notion of non-mereological unity disturbing, taking factualism's commitment to it as a reason to reject the view.⁵ I shall pass by this issue in what follows.

⁵ Among such philosophers is David Lewis. He claims that the only serviceable notion of parthood is mereological parthood. See his "Against Structural Universals," *Australasian Journal of Philosophy* 64: 1 (1986): 25-46.

Factualists are ontologically committed to the constituents of their facts. The above way of formulating facts, then, appears to commit the factualist to properties and relations. We shall, accordingly, accept properties and relations, in addition to facts and particular things, as parts of the ontology of factualism. I wish to leave open the possibility that there are no ultimate, atomic constituents of facts, that each particular thing is divisible into parts, and its parts are divisible into parts *ad infinitum*. This seems to me at least an epistemic possibility, so I do not wish for factualism to be inconsistent with it. As far as the factualist is concerned, the world might be composed of structures ‘all the way down’. If this is the case, then the world is composed of facts all the way down; there is no bottom level of complexity.⁶

1.01 Kinds of Facts

We have already met with the simplest kind of fact, what we shall call an *atomic* fact. But, it has been argued, most notably by Russell, that there are many different kinds of fact.⁷ On one sense of the word ‘kind’ this is unobjectionable.⁸ There are many kinds of facts: facts about me, facts about you, facts about numbers, facts about nations, facts about football teams, and so on. This is not the understanding of ‘kind’ according to which Russell held that there are many different kinds of facts.

⁶ See Theodore Sider’s discussion of so-called “atomless gunk” in his *Four Dimensionalism* (Oxford: Clarendon Press, 2001).

⁷ Russell (1956).

⁸ Thanks to Professor Ryckman for this point.

Russell held that facts differ with respect to their structure. Atomic facts are the most structurally simple; they stand in a one-one correspondence relation to true atomic propositions. But, there are more propositions than just the atomic ones. Other propositions can be formulated by means of the truth functional operators of negation, conjunction, disjunction, material implication, and so on, and by existential and universal generalization. The former type of propositions we shall call *molecular* propositions, the latter we shall call *general* propositions. Now, a pair of questions immediately arises, ‘are there molecular facts?’ and ‘are there general facts?’ Russell vehemently denies disjunctive molecular facts, facts of the form ‘ p or q ’, but accepts negative, existential, and general facts. Why? Are there good reasons to accept non-atomic facts? The answers to these questions shall be the focus of our entire discussion.

It would appear that the most attractive factualist theory is one that accepts just atomic facts. Occamist concerns of ontological economy seem to speak in its favor: given that a primary motivation for endorsing factualism is the felt need for *truthmakers* for true propositions, one might hold that, at least molecular facts would be ontologically gratuitous. For molecular propositions are merely truth functions of their atomic constituents. So, given the atomic facts, all the true molecular propositions have satisfactory truthmakers. It would seem, at first blush, that atomic facts can do all the work. I shall call the version of factualism that accepts only atomic facts *factual atomism*.

It might, of course, be suggested that factual atomism is a non-starter. For, one might think higher-order facts of the form ‘such and such is a fact’ are required. Take the above fact, the fact that John loves Mary. It is obvious that this is a fact. Must a

factualist ontology include, in addition to the complex [*loves*², john, mary], the further, higher order fact [*is a fact*¹ [*loves*², john, mary]]? But this higher-order fact is also a fact, so it seems that a further, even higher-order fact is required. And so on, *ad infinitum*.

This seems ontologically extravagant. I think the factualist should follow Armstrong in claiming that here we have a regress of *truths*, all of which have the same truthmaker, the atomic fact that John loves Mary.

Still, there are other putative cases of non-atomic facts. Against the factual atomist it might be argued that the atomic facts do not suffice to fix the truth values of general and negative propositions. Russell famously argued that at least one general fact is required.⁹ Supposing that Russell was right, the resultant view is one on which there is more than one kind of fact. I will call such a version of factualism *factual pluralism*.

The factual pluralist holds that atomic facts are not enough. General, negative, and perhaps even existential and higher-order facts are required to exhaust the totality of being. I find pluralism about facts ontologically redundant. I should like to refute this view decisively. I must, however, content myself with a more humble goal. My project in this discussion shall be to remove one obstacle to factual atomism. I shall argue that there is no need to posit general facts, facts such as the fact that all human beings are mortal, the fact that all colored things are extended, or the fact that all objects on my table are either red or green. These facts, I shall argue, ought to be excluded from a sensible factualist ontology.

1.1 Assumptions

⁹ Russell (1956).

In the following, I shall make several assumptions. First, I shall assume that factualism is true. The goal of the present project is not to defend the view, but rather to see what kinds of facts it must accept. Accordingly, I shall be passing by worries about Davidsonian and Gödelian slingshot arguments, problems about totalities of facts, and so on¹⁰. These are very interesting issues, but they are beyond the scope of the present endeavor. I leave a treatment of them for others. I shall merely assume that there is something factulist-friendly available.¹¹ I shall also assume, *pace* Lewis, that the notion of a non-mereological part makes good sense.

Another assumption I have already gestured towards; I shall assume that the particular objects of our everyday acquaintance are constituents of facts. Nothing much depends on this assumption. I make it only for ease of exposition, and it can be discarded if need be. As I have mentioned, I do not wish to commit to any view about what the ultimate constituents of facts are, or whether there are *ultimate* constituents. As far as I know, there are constituents all the way down. Or, it might turn out to be the case that nihilism is true, that there are no composite objects. If this is the case, then the only constituents of facts are simples and their properties and relations. I doubt nihilism is true, but I do not wish for factualism to be inconsistent with it.

I shall, at times, as indicated above, speak as though there are properties and relations. It may turn out, however, that nominalism is true, so I wish for what we say

¹⁰ For an interesting discussion of slingshot arguments, see Stephen Neale, *Facing Facts* (Oxford: Oxford University Press, 2001). For discussion of problems related to totalities, see Patrick Grim, *The Incomplete Universe* (Cambridge: MIT press, 1991).

¹¹ For suggestions on how to handle apparent paradoxes inherent in talking about the totality of being, see Richard Cartwright, "Speaking of Everything," *Nous* 28 (1994): 1-20.

here to be consistent with this view. I do not purport to give an analysis of properties and relations for just this reason, nor do I wish to offer a view about what properties and relations there might be, or which of them are the perfectly natural or fundamental properties and relations. This shall not be our concern here.

I shall further assume that, in addition to facts and their constituents, there are *propositions*. I shall not, however, purport to give an analysis of propositions. It shall suffice to say that these are pseudo-linguistic entities that are the bearers of truth and falsity and stand in logical relations to one another. They are the things that are ‘made true’ by truthmakers. It may turn out that factualism needn’t countenance propositions. On this issue I shall be silent. Talking as though there are such things will make for a clearer exposition and avoid much circumlocution. I shall use an angle bracket notation in order to refer to propositions. According to this notation,

<Smith is taller than Jones>

refers to the proposition expressed by the sentence, ‘Smith is taller than Jones’.

As I do not want factualism to be held ransom to a particular view about the metaphysics of modality, in what follows, I wish to remain neutral about whether there are merely possible objects. To achieve this end, I shall err on the side of caution. I shall disallow any view on general facts that appeals to merely possible entities. If it turns out that there are such things as merely possible entities, then I wish for the factualist’s ontology to be consistent with these. However, I also want factualism to be consistent

with actualism.¹² So, by refusing, for the meantime, to countenance merely possible objects, I shall leave open the option of adding them to our ontology should they be required.

1.2 The Project

Our discussion of the need for general facts shall divide into two parts: the case for general facts and the case against. I shall first present arguments for general facts. The main proponents of general facts are Russell and D. M. Armstrong. Accordingly, these philosophers will be my main targets. I shall spend the next chapter carefully laying out their arguments for general facts. Along the way, I shall offer my own commentary on and criticisms of these arguments. After having discussed Russell's and Armstrong's views, I shall present some further arguments for general facts. As far as I know, these arguments have not been given in the literature.¹³

The second part consists of the arguments against general facts. There I will attempt to undermine an ontology of general facts by showing that general facts cause more problems than they are worth, and that there are suitable ways to do without them. A substantial portion of this third chapter will be devoted to a discussion of Phillip Bricker's views on this issue.¹⁴ I shall argue that Bricker's argument presupposes

¹² In possible worlds talk, actualism is the view that everything that exists, exists at the actual world. Possibilism is just the denial of this claim, that some things that exist do not exist at the actual world. I take this formulation from G. W. Fitch, "In Defense of Aristotelian Actualism," *Nous* 30 (1996): 53-71.

¹³ With the exception of the argument I call the Argument from Maximality; a version of this argument appears in David Armstrong, *Truth and Truthmakers* (Cambridge: Cambridge University Press, 2004).

¹⁴ Phillip Bricker, "The Relationship between General and Particular: Entailment vs. Supervenience" forthcoming in *Oxford Studies in Metaphysics*, ed. Dean Zimmerman.

possibilism, and therefore must be rejected according to our assumptions. I shall argue, however, that a revised version of Bricker's possibilist proposal formulated in terms of ersatz possible worlds is a live option.

I want to make it clear at the outset that I do not purport to give knock-down arguments against general facts. Rather, I maintain that the cumulative weight of my arguments tips the scales against general facts, and therefore slightly in favor of factual atomism over factual pluralism. If I am right, I shall have won a substantial victory for factual atomism, and cleared the way for this view as a viable metaphysical research program.

2. The Case for General Facts

2.0 Russell's *Logical Atomism* view

Bertrand Russell, at least at the time of his lectures on logical atomism, was one of factualism's most prominent supporters. He took it as an obvious truism that the world contains facts. It is clear that Russell was a factual pluralist, for he held that "[t]here are a great many different kinds of facts".¹ Among the kinds of facts Russell posited were atomic facts, negative facts, existential facts, and general facts. While the focus of this section shall be Russell's reasons for accepting general facts, we shall have some cause to examine his reasoning in favor of the other sorts of facts. For, I shall maintain, a careful look at Russell's case for existential and negative facts reveals a subtle argument for general facts.

I identify what I take to be three distinct arguments for general facts in Russell's lectures on logical atomism. These I will refer to as the Enumeration Argument², the Epistemological Argument³, and the Structural Argument. We shall examine each of these in turn.

2.01 Backdrop: Exegetical Issues

Before turning to Russell's arguments for general facts, we must address a few issues. In order to appreciate the need Russell felt for general facts, we must understand

¹ Russell (1956) pg. 183.

² This title is Professor Ryckman's. Philip Bricker formulates a version of this argument and calls it the 'Non-Entailment Argument'. We shall examine Bricker's formulation below.

³ This title is also Ryckman's.

his view about the relationship between facts and the bearers of truth and falsity. As Russell observes in the opening lecture, “it is natural to concentrate upon the proposition as the thing which is going to be our typical vehicle on the duality of truth and falsehood”.⁴ Russell’s views on propositions and correspondence, however, hardly remained constant during his career. Indeed, it is difficult to get clear on exactly what his view of propositions was at the time of the lectures. In some passages, he speaks of them as though they stand in the relation of correspondence to facts, in others he denies that they exist.

The matter is only further complicated by the ambiguity of ‘proposition’ in Russell’s usage. The term seems to be used at varying places throughout the lectures to mean, (i) a sentence type, (ii) a sentence token, or (iii) the content expressed by a sentence token. In the same paragraph, Russell describes propositions as being “*expressed by several words*” (use (iii)), as having “*component words*” (uses (i) and (ii)), and as being the sort of things one can understand even if one has “*never heard*” them before (use (ii)).⁵

Russell’s views of the nature of propositions and their correspondence to facts could themselves be the topics of a book-length research project. Considerations of space preclude giving a thoroughgoing treatment of these exegetical problems here. I mention them merely to set them aside. Although there are good reasons to think Russell’s ontology of logical atomism excludes propositions in sense (iii), we shall continue to speak as though Russell endorsed such entities. While propositions, in our preferred

⁴ Russell (1956), pg. 184-5.

⁵ Russell (1956), pg. 193 (emphasis mine).

sense, no doubt were supposed by Russell to drop out in the final analysis of things, talk of them as the primary bearers of truth and falsehood will greatly expedite discussion.

2.011 Russell's Taxonomy of Propositions

Below, I shall argue that concerns about the structure of different types of proposition were part of Russell's motivation for accepting factual pluralism. A brief word about Russell's view of the structure of propositions is therefore in order.

Propositions are complex. According to Russell, they are "complex symbols", in the sense that they have "parts that are symbols".⁶ The simplest of propositions are what Russell calls 'atomic' propositions. For Russell, an atomic proposition is a proposition that has just "one component which is naturally expressed by a verb...this one component is a quality or dyadic or triadic or tetradic...relation."⁷ It is important to note that Russell's characterization of atomic and molecular propositions differs somewhat from our own. On Russell's view, no atomic fact has more than one relational constituent. Just as the underlying *facts* have only one relational constituent, so too the atomic *propositions* have just one relational constituent. So far, Russell's characterization accords with ours.

Russell departs from our characterization, however, in his introduction of molecular propositions. For Russell, molecular propositions are those that are "built up

⁶ Russell (1956), pg. 185.

⁷ Russell (1956), pg. 199.

out of propositions related by such words as ‘or’ ‘if’ ‘and’, and so on”.⁸ Russell’s use of the notion of *relation* and the plural form ‘propositions’ in this characterization of molecular propositions suggests that a proposition is molecular only if it is composed of *two* or more propositions suitably related by a copula. So, while the proposition expressed by

(1) It is not the case that Jones loves Smith,

is, on our understanding of the term, a molecular proposition, this is not clearly the case according to Russell’s taxonomy. For the proposition expressed by (1),

(1’) <Not-Jones loves Smith>,

does not consist of two or more propositions suitably related by a logical connective.

Russell’s sense of ‘molecular’ is somewhat more literal than ours. Molecular propositions are, for Russell, molecular in the sense in which H₂O molecules are: they consist of more than one atom (proposition), bonded (related) in the appropriate way.

It is somewhat unclear whether (1’) counts, on Russell’s conception of atomicity, as an atomic proposition. Whether (1’) is atomic, it would seem, depends on whether the verb ‘is’ in (1) drops out in the final analysis, or remains as an ultimate constituent of the proposition expressed. Russell offers little in the way of the analysis of negations in the lectures. He claims that the distinction between positive and negative facts is “difficult to

⁸ Russell (1956), pg. 208.

make precise”.⁹ It would seem that the distinction between negative and positive propositions is equally difficult to make precise.

On Russell’s view, then, there are propositions that are atomic, molecular, and neither atomic nor molecular. It is perhaps unclear whether Russell thought that the proposition expressed by (1) is non-atomic and non-molecular. We shall, for the moment, put aside this exegetical issue. There are two more sorts of non-molecular, non-atomic propositions that Russell discusses: existential propositions and general propositions.

Russell notes that general and existential propositions are “each other’s negations”.¹⁰ Given the interdefinability of the universal and existential quantifiers, it seems odd that Russell takes both general and existential propositions as basic rather than defining one in terms of the other. The reason Russell cites for doing this is that it would be, in an important sense, “quite arbitrary which one to choose”, so it is “better to forget these words and speak only of general propositions and propositions asserting existence.”¹¹

So, the class of propositions subdivides into (i) atomic, (ii) molecular, and (iii) non-atomic, non-molecular. This third class further subdivides into, (iv) general, (v) existential, and (perhaps) (vi) negations of atomics. Russell uses the term ‘particular’ fact to refer to the facts that correspond to propositions of the types (i) and (ii) (and, if they are a separate class, those in (vi)). He uses the term ‘general’ fact to refer to the

⁹ Russell (1956), pg. 184.

¹⁰ Russell (1956), pg. 228.

¹¹ Russell (1956), pg. 229.

facts that correspond to general propositions, and the term ‘existence’ fact to refer to facts corresponding to existential propositions.

As I shall argue below, Russell’s analysis of (iv) and (v) as involving what he calls ‘propositional functions’ points toward a subtle argument for general and existential facts as “over and above” particular facts. Before moving on to assess his arguments for these facts, we must say a brief word about Russell’s view of correspondence.

2.012 Facts and Propositions: Two Ways of Corresponding

Having provisionally identified propositions as the bearers of truth and falsehood, we must now say something about Russell’s view on truth. On Russell’s view, whether a given proposition is true is a matter of how it stands to the facts. Russell’s version of the correspondence theory of truth is not, however, the naïve view on which there is a one-one correspondence between true propositions and facts. For, Russell held that while there are molecular propositions, he thought that these do not correspond to unique, molecular facts.

It is important to note that the notion of correspondence at work in Russell’s view as it appears in the lectures is not supposed to be an *analysis* of truth. For if it were, the analysis would be hopelessly circular. On Russell’s view, there are two ways a proposition can correspond to a fact, “[t]he essence of a proposition is that it can correspond in two ways with a fact, in what one may call the *true* way or the *false*

way.”¹² When a proposition corresponds truly to a fact, the proposition is true. When a proposition corresponds falsely to a fact, the proposition is false.

While this is no *analysis* of truth, it is an account of truth and falsehood. On Russell’s view, “[w]hen we speak falsely it is an objective fact that makes what we say false, and it is an objective fact which makes what we say true when we speak truly.” So, this correspondence to fact is supposed to amount to a truthmaking or falsemaking relation. Every non-molecular proposition, on Russell’s view, has either a truthmaker or a falsemaker. In both cases the entities related in this way to propositions are facts.

As I noted above, Russell holds a different account for molecular propositions. The truth or falsehood of molecular propositions is secured by the way their atomic constituents are related to the facts. According to Russell,

[W]hen you take such a proposition as ‘ p or q ’, ‘Socrates is mortal or Socrates is living still’, there you will have two different facts involved in the truth or the falsehood of your proposition ‘ p or q ’. There will be the fact that corresponds to p and there will be the fact that corresponds to q , and both of those facts are relevant in discovering the truth or falsehood of ‘ p or q ’.¹³

While each non-molecular proposition corresponds either truly or falsely to a fact, to every fact there correspond (at least) two propositions. Take the fact that Socrates is mortal. There are two propositions corresponding to this fact. These are the proposition expressed by,

(2) Socrates is mortal,

and the proposition expressed by

¹² Russell (1956), pg 208 (emphasis mine).

¹³ Russell (1956), pg. 209.

(3) Socrates is not mortal.

The former corresponds truly to the fact, and the latter corresponds falsely to the fact. In virtue of this correspondence, (2) is true and (3) is false.

2.02 The Enumeration Argument¹⁴

What we have said so far is by way of introduction. We now move on to a consideration of the first argument Russell gives for general facts. In the opening lecture, Russell makes it clear that general facts are required. He maintains that it would be

a very great mistake to suppose that you could describe the world completely by means of particular facts alone. Suppose you had succeeded in chronicling every single particular fact throughout the universe, and that there did not exist a single particular fact of any sort anywhere that you had not chronicled, you still would not have got a complete description of the universe unless you also added: 'These that I have chronicled are all the particular facts there are'. So you cannot hope to describe the world completely without having general facts as well as particular facts.¹⁵

In a later lecture, Russell gives the following statement of the Enumeration Argument:

I do not think one can doubt that there are general facts. It is perfectly clear, I think, that when you have enumerated all the atomic facts in the world, it is a further fact about the world that those are all the atomic facts there are about the world., and that is just as much an objective fact about the world as any of them are.¹⁶

At first blush, it seems that the argument is something like the following.

¹⁴ We shall return to this argument, albeit in a slightly different form, when we discuss Bricker's treatment of Russell.

¹⁵ Russell (1956), pg. 183.

¹⁶ Russell (1956) pg. 236.

(E1) A list of atomic facts would not completely describe the universe.

(E2) If (E1), then there is at least one non-atomic fact.

(E3) There is at least one non-atomic fact.

The most likely non-atomic fact would be the one that ‘collects’ all the atomic facts and ‘says’ that those are all the atomic facts there are.

This formulation of Russell’s argument, however, is a bit too naïve. For, completeness of description is an epistemological notion. If Russell’s reason for accepting general facts was merely that one would not be in a position to locate the world in logical space on the basis of knowing what atomic facts there are, then the argument in the above passages is clearly fallacious. The metaphysical conclusion is a *non sequitur*.

Russell’s argument is more complicated. In order for the metaphysical conclusion to go through, one must bring in correspondence theory. Let us suppose, along with Russell, that we have succeeded in enumerating all the atomic facts there are.¹⁷ This enumeration would give rise to a (perhaps infinite) list. It is arguable that such a list cannot be created by means of a natural language. For, perhaps, no natural language is robust enough to capture all of the atomic facts. Perhaps there are infinitely many particular things or relations such that no natural language has enough names for these objects. We can bypass such a worry by forming the list in a *Lagadonian* language in which the facts are names for themselves.¹⁸ Call such a list L. Now, consider,

¹⁷ Whether one thinks this is possible or not depends, in part, on whether one conceives of the enumeration as occurring within the world or not. For, if the enumeration occurred in the world, it would seem that the project could never get off the ground. Every fact enumerated would give rise to a ‘list-fact’ of the form “atomic fact *f* is one that I have enumerated”. It would seem that an infinite hierarchy of lists would be required to capture all the facts, thereby completely describing the Universe. We can forestall this problem, perhaps, by thinking of the enumeration as occurring outside the world.

¹⁸ See David Lewis, *On the Plurality of Worlds* (Oxford: Basil Blackwell, 1986), pg. 145.

(4) L lists every fact.

If our enumeration is successful, as we are assuming, (4) will express a true proposition. This proposition is clearly not atomic. It is equally clear that it is not logically equivalent to a large conjunction of 'list propositions' of the form 'L contains f_1 ', 'L contains f_2 ', ..., 'L contains f_n ', where the f_i name the atomic facts on L. For, this (perhaps infinite) conjunction does not suffice to *entail* the proposition expressed by (4). There might have been more, or at least different, atomic facts.

So, it seems clear that (4) does not express a molecular proposition, in Russell's sense. But, if this is true, then the proposition expressed by (4),

(4') <L lists every fact>,

is not true in virtue of the truth values of its atomic constituents. For (4') is a general proposition, and, on Russell's analysis of general propositions, has no atomic constituents. Since it is true, and it is not true in virtue of corresponding truly to the atomic facts, it must be true in virtue of corresponding truly to some other fact, a general fact.

This argument, of course, only goes through if one accepts Russell's version of the correspondence theory of truth and his taxonomy of propositions. For if one were to take existential quantification as basic, then the proposition expressed by (4) would be something like,

(4'') <it is not the case that there is a fact not contained on L>.

This analysis of (4) together with the view that only true propositions correspond to facts yields a line of resistance to Russell's argument. For, one can hold that (6'') is true in virtue of the fact that its existential complement

(5) <there is a fact not contained on L>

is false. (5) is false, a critic of Russell might maintain, merely in virtue of its failure to correspond to any fact at all. If this is the case, then one needn't countenance a further, general fact in order to explain the truth of (4).

So, while the Enumeration argument gives Russell a reason to accept general facts, it is not clear that it gives us a reason to accept them.

One might maintain that the above account leaves negative existential truths like (4'') hanging on air in an unacceptable way. Every truth, such a theorist might maintain, needs to be made true by something in the world, not merely by the absence of something. Such a view is held by Armstrong, and indeed has quite an intuitive pull. We shall discuss this 'truthmaker' view below. For the moment, it suffices to remark that absent one's acceptance of something like Armstrong's truthmaker principle, one is unlikely to be moved to accept general facts by the Enumeration Argument.

There is another way to understand the Enumeration Argument that is perhaps closer to what Russell had in mind. Russell claims that the world cannot be described completely merely by listing all the particular things there are. As Russell observes,

[t]he outer world—the world, so to speak, which knowledge is aiming at knowing—is not completely described by a lot of ‘particulars’, but...you must take into account these things that I call facts, which are the sorts of things that you express by a sentence and...these, just as much as particular chairs and tables, are part of the real world.¹⁹

This reason for holding factualism might lead one to think that there must be general facts. For, why think that the particulars do not exhaust reality? One reason is that it seems plausible to hold that the very same particulars could have existed, and yet have been related differently. So, facts or states of affairs are required in order to give a complete account of the world.

But, if one is moved by such an argument to accept factualism, then a similar argument is in the offing for factual pluralism. For, take all the atomic facts there are. These very same facts could have existed and yet not have been all the facts. If this is true, and we are moved to our factualism on the basis of the above modal argument, then it seems that parity of reasoning ought to convince us to accept general facts.

If this is right, then rejecting general facts is tantamount to undermining one of the central reasons for accepting factualism in the first place.

2.03 The Epistemological Argument

Russell is moved to accept general facts from theoretical concerns about truth, correspondence, and truthmaking. He is also moved to accept them from somewhat more

¹⁹ Russell (1956), pg. 183.

epistemological concerns. In his lecture on general propositions and existence, Russell gives another argument for general facts. He begins by making the taxonomical observation that, “we have such propositions as ‘All men are mortal’ and ‘Some men are Greeks’.”²⁰ He then goes on to advance the more contentious claim that “[y]ou have not only such *propositions*; you have also such *facts*, and that, of course is where you get back to the inventory of the world”²¹

The reasoning in favor of these facts to which Russell immediately points is as follows.

You cannot ever arrive at a general fact by inference from particular facts, however numerous. The old plan of complete induction, which used to occur in books, which was always supposed to be quite safe and easy as opposed to ordinary induction, that plan of complete induction, unless it is accompanied by at least one general proposition, will not yield you the result that you want. Suppose, for example, that you wish to prove in that way that ‘All men are mortal’, you are supposed to proceed by complete induction, and say ‘A is a man that is mortal’, ‘B is a man that is mortal’, ‘C is a man that is mortal’, and so on until you finish. You will not be able, in that way, to arrive at the proposition ‘All men are mortal’ unless you know when you have finished. That is to say that, in order to arrive by this road at the general proposition ‘All men are mortal’, you must already have the general proposition ‘All men are among those I have enumerated’.²²

The above consideration might lead one to accept a general fact for the following reason. When I learn that Jones is mortal, that Smith is mortal, and so on for all the men there are, I come to learn a new fact when I learn that all men are mortal, “how new a fact, appears from [the above consideration] that it could not be inferred from the mortality of the several men that there are in the world.”²³

Let M be the set of men. It seems that learning

²⁰ Russell (1956), pg. 234.

²¹ *Ibid.*

²² *Ibid.*

²³ Russell (1956), pg. 236.

(6) All men are mortal,

and

(7) The members of M are all the men there are,

are genuine epistemic achievements. Further, according to Russell, neither of these claims follows from the atomic propositions attributing manhood and mortality to the sundry members of M . So, even if I can come to know that all these atomic propositions are true, it seems I do not thereby come to know (6) and (7) are true.

Given that knowledge is factive, one might think that this shows that what I know must be some fact. As Russell remarks in the lecture on belief, while facts cannot be the objects of belief because “your beliefs are sometimes wrong”, nevertheless, “[y]ou can say that you *perceive* facts, because perceiving is not liable to error. Wherever it is facts alone that are involved, error is impossible.”²⁴ So, it might appear that when I come to learn (6), I come to be related to some fact or facts. These couldn’t be all the sundry atomic facts about the members of M , for I can know these without thereby knowing (6). So, it must be a general, or at least non-atomic, fact to which I am related when I know (6) is true. Something like this seems to be what Russell had in mind in the above passage.

The above argument does not go through, though. For, all that the above line of reasoning shows is that there must be general *propositions* in addition to atomic ones. I

²⁴ Russell (1956), pg. 223.

can come to learn that all men are mortal by the plan of complete induction so long as I have a general proposition among my premises. There needn't be any fact that corresponds to this proposition in order for it to play a role in my reasoning. So, we ought willingly to concede that knowledge of general claims like (6) always proceeds from knowledge of some general proposition, but deny that we need to be related to a general fact in order to have this knowledge.

We shall be moved to accept the Epistemological Argument only insofar as we think that, when S knows some proposition to be true, what S knows is some fact or other. So far we have been given no reason to accept this. For, while Russell maintains that whenever we are related to a fact, error is impossible, it needn't be the case that whenever error is impossible, we are related to a fact. So, we may accept that when S knows that p , error is impossible, that is, S 's knowing that p implies p . But, we may reject the claim that this means S is related to some fact, the fact that p . Indeed, this is a plausible line to take in the case where p is a molecular proposition. The factualist's ontological commitment to facts is not also a commitment to an epistemology on which the objects of knowledge are facts.

2.04 The Structural Argument

We shall now consider what I take to be Russell's third argument for general facts. As we shall see, Philip Bricker takes Russell's main reason for accepting general facts to be the non-entailment of the general by the particular. Whether or not this is true

(and I incline to the view that it is not), non-entailment does not seem to be Russell's only reason for accepting a pluralist ontology including general facts.

Indeed, if Russell's only concern was the non-entailment of the general by the particular, it seems quite odd that he so readily accepted existence facts, and more reluctantly accepted negative facts. For existential propositions such as the one expressed by

(8) A man exists,

are entailed by atomic propositions such as the one expressed by

(9) Smith is a man.

Further, all the negations of atomic propositions would be entailed by the great 'collector' fact for which Russell strenuously argues.

Again, in order to see why Russell thinks there are such existence and negative facts, we must come back to his views on correspondence. Russell admits these facts "as distinct from and over and above particular facts" because, in a very important sense, atomic propositions are about different things than are either general or existential propositions. On Russell's view the state of affairs of a 's being F , where a is a particular and F is some monadic property, gives rise to the atomic fact, $[F^1(a)]$. On Russell's view, this fact contains two things: the particular a and the property F . As Russell puts it,

“[a]tomic facts contain, besides the relation, the terms of the relation”.²⁵ These items are *constituents* of facts.

Existential and general propositions, on Russell’s view, do not involve particulars in this way. The proposition expressed by (9) is about Smith and the property of being a man. If true, the fact to which it corresponds contains Smith and that property. The proposition expressed by, (8), which is true whenever (9) is, does not mention any particular men. Nor does it mention the property of being a man, according to Russell, in quite the same way as the proposition expressed by (9). On Russell’s view, (8) expresses a proposition about the *propositional function*

(10) x is a man.

According to Russell, (10) expresses the proposition,

(10’) \langle ‘ x is a man’ is possible \rangle

In saying of (10) that it is possible, Russell means that there is at least one value for the variable x that results in a true substitution instance of the open sentence. (10’) involves the property of being a man only indirectly, imbedded as it is within a propositional function. Likewise, the proposition expressed by,

(11) All men are mortal,

²⁵ Russell, pg. 199.

is a proposition that involves the property of being a man and the property of being mortal indirectly. (11) expresses the proposition,

(11') <'if x is a man, x is mortal' is necessary>

By, 'necessary' Russell means the function yields a true proposition for any value of x .

What of the facts to which (10') and (11') correspond? Russell does not "profess to know what the right analysis of general facts is", but he does claim that the "convenient technical treatment is by means of propositional functions".²⁶ While this 'convenient technical treatment' is involved in the proper analysis, according to Russell, it "is not the whole of the right analysis".²⁷ Despite Russell's hesitancy in thinking that an analysis in terms of propositional functions exhausts the correct treatment of general facts, his claim that they are involved should give us pause. It is clear that, if there are such things as general facts and existential facts, then these would be different sorts of things than atomic facts. But, it seems that, at least for Russell, general facts and existential facts have a commonality of structure. Both seem to involve propositional functions and properties of propositional functions.

But, if this is the case, then it seems to me that a failure of entailment of the general by the particular cannot be the whole story about why Russell thought we are stuck with an ontology that includes general facts. For, atomic propositions entail

²⁶ Russell, pg. 237.

²⁷ *Ibid.*

existential propositions, and yet we are stuck with an ontology that includes those as well. Even if, *per impossible*, the atomic propositions entailed the general ones, I suspect Russell would have demanded general facts. Russell's perceived need for general facts was driven, at least in part, by the difference in logical structure between general propositions and atomic propositions.

The underlying argument seems to be that atomic facts, even when taken together, have the wrong structure to correspond to general propositions. If every true proposition is true in virtue of facts, then, it would appear that general facts are required in order to stand in the correspondence relation to general propositions.

We can resist this line of reasoning, as we resisted the Enumeration Argument, by denying Russell's version of the correspondence theory of truth. But, there is a further line of resistance available to the Structural Argument. One can say that the analysis of general propositions that drives the Argument is mistaken. The ultimate constituents of general facts are not propositional functions, one might maintain, but rather mereological sums and properties.²⁸ This line of response might not ultimately get us out of an ontology of general facts, but it at least allows us to sidestep Russell's argument.

2.1 David Armstrong's Truthmaking View

The most prominent contemporary advocate of factual pluralism is David Armstrong. Armstrong holds that the world is a world of facts, which he calls 'states of affairs'. Furthermore, Armstrong holds that there are several different kinds of facts.

²⁸ This, or something like it, is Armstrong's line. See his (2004).

Among these are atomic facts, general facts (he calls these ‘higher-order states of affairs’), and second-order causal facts. We shall examine the case he makes for general facts.

I have argued that the Enumeration Argument may not be Russell’s main reason for accepting general facts. Whether or not this is the case, a version of this argument *is* Armstrong’s main reason for accepting general facts. Armstrong regards Russell’s Enumeration Argument as “[t]he knock-down case” for higher-order states of affairs.²⁹ He puts the argument in terms of providing truthmakers for general truths of totality:

Take the mereological sum of what happens to be all the men. It seems clear that this object does not necessitate that it *is* all the men. So, if truthmaking involves necessitation, as I wish to maintain, then this object cannot be the complete truthmaker for <these are all the men>.³⁰

Let F be the class of all atomic facts. According to Armstrong, the case with F exhausting all the atomic facts is paralleled by the case of the totality of men, M , totaling all the men.

Bolstering Russell’s original statement of the Enumeration Argument with Armstrong’s notion of a truthmaker, we have the following:

- (A1) If F is the totality of being, then it is a truthmaker for the totality claim, “ F contains all the facts there are”.
- (A2) If F is a truthmaker for this totality claim, then at any world at which F exists, the totality claim is true.
- (A3) There are worlds where F exists and the totality claim is false (i.e., the world might have been bigger).
- (A4) F is not the totality of being.

²⁹ D. M. Armstrong, “A World of States of Affairs,” *Philosophical Perspectives* 7 (1993): 429-440, pg. 436.

³⁰ Armstrong, David M. *Truth and Truthmakers*, 2004, Cambridge: University Press, pg. 68.

Recall that there was a naïve interpretation of Russell's original argument. On this interpretation, the argument purports to show that since a description of the Universe that only mentioned atomic facts would be incomplete, there must be a general fact. We rejected this interpretation as uncharitable to Russell. As we noted, though, the addition of something like Armstrong's truthmaker principle gives the Enumeration Argument, even in its facile statement in terms of completeness of description, ontological significance. On this view, if F does not provide a complete description of the world, then it must leave something out. For the factualist, what it leaves out must be a fact. F does not leave out a mere atomic fact, for *ex hypothesi*, it contains all the atomic facts. What it excludes, then, must be a general fact, in Armstrong's terminology, a *higher-order state of affairs*. If this argument is sound, then, factualists must accept general facts.

I shall consider two lines of objection to the above argument. One of these is to reject (A2) by denying the view Armstrong calls Truthmaker Necessitarianism. The other of these is to reject (A3) by embracing instantiation as partial identity. I shall take up each of these in turn.

2.11 Truthmaker Necessitarianism

Armstrong characterizes a truthmaker for a particular true proposition p as "some existent, some portion of reality, in virtue of which that truth is true."³¹ According to Armstrong, when one engages in the practice of finding truthmakers, one is confronted

³¹ Armstrong (2004), pg. 5.

immediately by two questions, (i) “do truthmakers actually *necessitate* their truths”, and (ii) “do *all* truths have truthmakers”.³² Armstrong’s answer is ‘yes’ on both counts. The views that result he calls respectively “Truthmaker Necessitarianism” and “Truthmaker Maximalism”. While he offers no direct argument in favor of Maximalism, Armstrong does argue directly for Necessitarianism. He gives the following argument by *reductio*.

Suppose that a suggested truthmaker *T* for a certain truth *p* fails to necessitate that truth. There will then be at least the possibility that *T* should exist and yet the proposition *p* not be true. This strongly suggests that there ought to be some further condition that must be satisfied in order for *p* to be true. This condition must either be the existence of a further entity, *U*, or a further truth, *q*. In the first of these cases, *T* + *U* would appear to be the true and necessitating truthmaker for *p*. (If *U* does not necessitate, then the same question raised about *T* can be raised again about *U*). In the second case, *q* either has a truthmaker, *V*, or it does not. Suppose *q* lacks a truthmaker, then there are truths without truthmakers. The truth *q* will ‘hang’ ontologically in the same sort of way that Ryle left dispositional truths hanging (Ryle, 1949).³³

Clearly, the above argument presupposes Maximalism. We shall have to examine this argument more thoroughly in the next chapter. For now, however, suffice it to say that the argument fails if Maximalism is denied.³⁴ Many are uncomfortable with this doctrine. Some philosophers claim that negative propositions or necessarily true propositions do not require truthmakers. If this is the case, then Armstrong’s above argument for Necessitarianism does not go through.

Rejecting Maximalism, however, is not the only way to avoid Armstrong’s argument for Necessitarianism. In the next chapter I shall argue more thoroughly that Armstrong’s argument for Necessitarianism is unacceptable. If I am right about this, we have no reason to accept this doctrine. If this is the case, then we may reject (A2).

³² *Ibid.*

³³ Armstrong (2004), pp. 6-7.

³⁴ Others have denied Maximalism, see Cox’s article, “The Trouble with Truthmakers”.

2.12 Instantiation as Partial Identity

Armstrong considers a view he attributes to Donald Baxter and according to which a particular's instantiating a property is a partial identity, or intersection, of the particular and a universal. But, it is plausible to claim that where there is identity, it holds of necessity. As Armstrong argues,

Suppose a to be F , with F a universal. If this state of affairs is contingent, then it might not have existed. Suppose it had not existed. The particular a , the particular with all its non-relational properties, what I have in the past called the 'thick particular', would not then have existed. Something quite like it could have existed instead: a particular with all of a 's properties except F . But that would have been only a close counterpart of a , because the intersection with F , the partial identity with F , would be lacking. Equally, it now seems to me, the universal F would not have existed. A universal very like F could have existed: a universal that had the same instantiations as F except for its instantiating a . But that would have only been a close counterpart of F ...³⁵

If we take property instantiation as partial identity of universal and particular, then it seems that we can avoid general facts while accepting Truthmaker Necessitarianism. Take the case of "all men are mortal". Let M be the set of men. Each member m_i of M has the property of being mortal. On the view in question, though, the m_i are each of them partially identical to the universal *manhood*. But, identity is a necessary property. So, there is no world at which each of the m_i and the universal *manhood* exists, and yet M does not exhaust the things that have the property of being a man, that is, of instantiating the universal *manhood*. For, suppose this is the case. At such a world there would be more men. But, if there were more men, then the universal *manhood* would have different instantiations. So, according to the above reasoning, it could only be, at best, a close counterpart of the universal *manhood* that exists at such a world, say, *manhood*₁

³⁵ Armstrong (2004), pg. 47.

So, “all men are mortal” is necessitated by the mereological sum of the m_i and the universal *manhood*. No general fact is needed.

Indeed, Armstrong considers this possibility. On this view, a “still more spectacular vision seems open. Given all the particulars and all the first-order universals, then all the states of affairs are fixed.”³⁶ On this view, general facts are not required in order to secure necessitating truthmakers for claims such as “all men are mortal”. It is odd, however, that Armstrong claims that “even if this line of thought is correct, there seems to be need for at least one totality state of affairs”.³⁷ According to Armstrong, “even if it is *extensionally* correct to say, for instance, that reality is exhausted by states of affairs having particulars and universals as their constituents, it seems not to be a necessary truth that this is so.”³⁸ Since there is at least the metaphysical possibility of facts having a different form, a factualist ontology requires, on Armstrong’s view, at least one totality state of affairs.

I find it very difficult to make sense out of this claim. It seems as though the factualist who maintains that facts take the form of one or more particulars standing in some n -place relation to one another means to hold that facts *necessarily* have this form. So, for the factualist who maintains that properties and relations are universals, it is necessary that facts involve particulars standing in relation to universals. This is, at least, a plausible interpretation of the factualist’s position. But, if this interpretation is right, then, on the instantiation as partial identity view, the factualist does not require general

³⁶ Armstrong (2004), pg. 81.

³⁷ *Ibid.*

³⁸ *Ibid.*

facts. (A3) can be rejected. For, F cannot exist at any world at which it is not the totality of atomic facts. At best some close counterpart of F could exist at such worlds. So, F necessitates that it is all the facts. Victory is secured for factual atomism.

Such a victory is Pyrrhic. On the view of property instantiation as partial identity, all that is required as a truthmaker for “ a is F ” is the mereological sum $a + F$. No fact is required, for this sum necessitates that a is F . The relation of instantiation, on this view, is an *internal* relation. Armstrong suggests that facts are still needed, even on the partial identity view. On this view, he claims that while “[t]here is no need for states of affairs *as an ontological extra*”, nevertheless, “[t]his should not, I think, lead to denying that there are states of affairs,” for, “[a]fter all, they are needed to act as truthmakers for predicative truths.”³⁹ Armstrong claims that on the partial identity view, “[g]iven a and given F , as opposed to mere counterparts of this particular and this universal, then the state of affairs of a 's being F is automatically there. It is built into the two constituents of the state of affairs.”⁴⁰ He thinks that the partial identity view does not vitiate factualism.

I think Armstrong is wrong about this. For, given that a is necessarily F whenever a and F exist, positing the state of affairs of a 's being F seems gratuitous. The leading idea behind factualism is that the world is a world of facts, not of things. That is, two worlds might have all the same *things*, and nevertheless these worlds might be distinct; the things might stand in different relations to one another, different *facts* might exist, different *states of affairs* might obtain. But, on the view of property instantiation as partial identity of universals and particulars or of tropes and particulars, no two worlds

³⁹ Armstrong (2004), pg. 49.

⁴⁰ *Ibid.*

can have the same things. The need for states of affairs totally evaporates. This, I take it, is the death knell for facts and should be resisted by the factualist at all costs.

So far, there does not appear a line of resistance the factualist can adopt while cleaving to the truthmaker principle. In the next chapter I shall attempt to motivate either a judicious weakening of the principle or an abandonment of the whole project of truthmaker theory. For the time being, however, it suffices to note that considerations of truthmaking come down in favor of positing general facts.

2.2 Solitude and the Need for Worldmaking Facts⁴¹

So far, the most compelling argument for general facts seems to be some version or other of the Enumeration Argument coupled with a demand for truthmakers. This strengthened, Armstrongian version of the Enumeration Argument invites us to consider worlds that have the actual world as a proper part, worlds at which there would have been more facts. Another brand of argument arrives at the same conclusion from the opposite direction; from considering worlds that are proper parts of the actual world.

Consider a familiar argument for undetached spatial parts.⁴² The desk on which I'm working could be cut in half. If such division took place, there would be two separate things: the left half of the desk and the right half of the desk. But, if the parts exist after division, why don't they exist before division as well? Why don't they exist

⁴¹ I owe the notion of a worldmaking fact to G. W. Fitch.

⁴² Theodore Sider considers versions of this argument in his *Four Dimensionalism*, pp. 89-90.

even if division never occurs? There seems no principled reason to deny their existence in these cases. So, there are undetached spatial parts.

There is an argument in the vicinity for general facts. Philip Bricker considers the following principle,

(PS) Principle of Solitude. For any worldbound individual, possibly, a duplicate of that individual exists all by itself.⁴³

This principle captures the intuition that worldbound individuals are *independent* in the way Aristotelian substances are thought to be independent.

Given (PS), we can formulate an argument for general facts. Suppose factual atomism for *reductio*. Now, consider some worldbound individual, say, the desk I am working on. If (PS) holds, a duplicate of the desk exists in a world all by itself. Call this world w_d . Consider all the atomic facts about the desk-duplicate at w_d . These facts will, presumably, be the facts that have as their constituents the desk-duplicate, its properties, the duplicate's parts, and their properties and relations to each other. Call this aggregate of atomic facts D . Since atomism is true, D is the totality of being at w_d .⁴⁴ It is reasonable to assume that a duplicate of D , call it D^a exists at the actual world, after all, the desk-duplicate is an intrinsic duplicate of the desk. But, if D suffices to be the world at w_d , what stops its duplicate from being a world at the actual world? It would seem that there must be some further fact at w_d that is absent at the actual world and in virtue of which D is the totality of being at the former, while its duplicate D^a is not the totality of

⁴³ Phillip Bricker, "Island Universes and the Analysis of Modality," in *Reality and Humean Supervenience: Essays on the Philosophy of David Lewis*, eds. Gerhard Preyer, Frank Siebelt (Lanham: Rowman and Littlefield, 2001).

⁴⁴ We are assuming, for the purposes of this argument, that D does not contain facts about numbers or necessary entities. If this seems problematic, the argument can be rerun with as many of these sorts of facts as it seems are needed.

being at the latter. Call this fact a ‘worldmaker’. It seems clear that it cannot be an atomic fact, for D^a contains (duplicates of) the atomic facts in D , and D^a , presumably, is not a world. It is a mere proper part of the world. So, the atomist lacks the resources to account for the unity of w_d . She cannot explain why D suffices to be a world and D^a does not. A non-atomic worldmaker, it would seem, is required.

This argument is compelling.⁴⁵ There are, however, a couple lines of resistance available. We might hold that the unity of a world does not depend on there being any worldmaking fact, but rather it depends on there being no further facts. For those enamored of Armstrong’s project of finding necessitating truthmakers for every truth, this move is likely to seem theoretically unsatisfying. What makes it true that a certain collection of facts is the totality of being? It must be something there is, not something there isn’t. Again, truthmaking theory seems at odds with factual atomism.

There is another reply. An atomist might hold that

(12) D^a is the totality of being

has numerous ‘falsemakers’ at the actual world. Any atomic fact not contained in D^a will do the trick. Each of these facts necessitate that (12) is false. What about the truthmaker at w_d for

(13) D is the totality of being.

⁴⁵ Thanks to Mike Mutalipassi here; Mr. Mutalipassi stressed the importance of this argument in conversation.

What are we to say is (13)'s truthmaker at w_d ?

Here the atomist can avail herself of a move Armstrong uses in order to explain the possibility of an 'empty world'.⁴⁶ It has been argued against truthmaking theory that the possibility of an empty world is inconsistent with the truthmaker principle.⁴⁷ Since the empty world is empty, it contains no truthmaker for,

(14) There is nothing.

This is supposed to show that there is something wrong with the truthmaker principle.

Armstrong replies as follows:

It may have value in certain cases to consider what would be the truthmakers 'in another world'. The real truthmakers, though, are in this world.⁴⁸

According to this line of resistance to the empty world problem, the truthmaker theorist needn't be able to find truthmakers for (14) *at the empty world*. Instead, the truthmaker theorist can identify structures and entities that exist at the actual world that provide for the possible truth of (14). That is, the truthmaker theorist only needs to account for the truth of the following,

(14') It is possible that (14) is true.

⁴⁶ In conversation, G. W. Fitch has expressed doubt about whether there is an empty possible world. It seems that 'there might have been nothing' is true, but perhaps it is not true in virtue of there being a logically possible *world* that contains nothing. The possibility of nothing might depend on something else. Perhaps, though, it is metaphysically necessary that there be at least something. This point is orthogonal to the present discussion, all that matters is that Armstrong takes this possibility seriously enough to respond to it.

⁴⁷ See David Efird and Tom Stoneham, "Combinatorialism and the Possibility of Nothing," forthcoming in *Australasian Journal of Philosophy*.

⁴⁸ Armstrong (2004), pg. 91.

The truthmakers for (14') are to be found in the actual world.

The atomist can adapt such a response into a reply to the argument from our desk-duplicate. The truthmaker for the true claim that w_d is possible is just the existence of the desk at this world together with whatever makes (PS) true (if true indeed it is). The possibility of a world such as w_d creates no need to suppose that there would have to be a worldmaking fact.

Here the argument can be rerun, however. What, it might be asked, makes it true that *our* world is a world? It would seem that if the falsemaker for (12) is the presence of more atomic facts, then the truthmaker for the claim,

(15) The actual world is a world (rather than a part of a world),

must be the absence of any further facts than the atomic ones. But, to opt for this explanation is to countenance absences, genuine *lacks* in the world. This is counterintuitive and inimical to factual atomism. Again, we see that, so long as we pursue the truthmaker line, claims like (15) look like trouble for the atomist.

2.3 The Argument from Maximality

In a recent paper, Theodore Sider maintains that many ordinary sortal terms like 'person', 'house', 'rock', and 'conscious being' express what he calls 'maximal' properties. According to Sider, "[a] property, F, is *maximal* iff, roughly, large parts of an

F are not themselves Fs.”⁴⁹ So, whether something has such a property depends, *inter alia*, on what that thing is attached to. Take the aggregate of subatomic particles that make up my body, for example. These particles compose a person. The aggregate of subatomic particles that make up all of me save for my finger do not compose a person. If I were to slice off my finger, though, I would persist (albeit uncomfortably). So, the aggregate that composes me now minus the finger *could be* a person. It doesn’t count as a person while the finger is still attached, for that would imply that there are two persons sitting here, wearing my shirt, typing this sentence, and so on.⁵⁰ What makes it true, then, that a certain collection of particles composes a person (or a house, etc.) is that a certain ‘covert’ totality clause is assumed.⁵¹

If Sider is right about ordinary sortal terms’ expressing maximal properties, then such truths of totality are required by most of our ordinary discourse. General facts, then, seem to be required, not just at the level of worldmaking, but at the level of personmaking as well.

Armstrong notes the pervasive nature of covert totalities. He takes as his example the property of *being a methane molecule*:

Consider the methane molecule, with its carbon atom at the centre and four hydrogen atoms bonded to this atom. Does the existence of these five atoms, suitably bonded, yield a methane molecule? It seems not. For consider the possibility of a larger molecule containing *as a proper part* the atoms that make up a methane molecule bonded just as they are within the methane molecule. (I do not know whether this is chemically possible, so I speak under correction from chemists.) It would seem that this is not a methane molecule. To be a methane molecule, it must

⁴⁹ Theodore Sider, “Maximality and Microphysical Supervenience”, *Philosophy and Phenomenological Research* 66 (2003): 139-149, pg. 139.

⁵⁰ Trenton Merricks makes this observation about the object he calls the ‘finger complement’ in his *Objects and Persons* (Oxford: Oxford University Press, 2001).

⁵¹ The notion of a covert totality clause is Armstrong’s.

contain five suitable atoms, four hydrogen and one carbon suitably bonded, and, furthermore, that must be *all* the atoms it contains.⁵²

Consider the carbon atom, c , and the four hydrogen atoms, h_1, h_2, h_3 , and h_4 . Now, consider the two-place relation of bonding, C . It seems clear that the fusion of $\{c, h_1, h_2, h_3, h_4\}$ is a methane molecule only if the following facts exist: $[C^2, c, h_1]$, $[C^2, c, h_2]$, $[C^2, c, h_3]$, and $[C^2, c, h_4]$. But does the existence of these atomic facts suffice for the existence of a methane molecule? Armstrong thinks not. Barring correction from chemists, it seems that each of the above atomic facts could exist and yet the fusion of $\{c, h_1, h_2, h_3, h_4\}$ not compose a methane molecule. But, if the atomist is right, in virtue of what does this fusion compose a methane molecule when it does? No answer seems forthcoming.

Perhaps the only line of resistance available is to claim that $[C^2, c, h_1]$, $[C^2, c, h_2]$, $[C^2, c, h_3]$, and $[C^2, c, h_4]$ *do* suffice to make it true that,

(16) c, h_1, h_2, h_3 , and h_4 jointly compose a methane molecule.

These facts do not, however, necessitate the truth of (16). The atomist, it seems, must reject Truthmaker Necessitarianism. Perhaps such a rejection amounts to giving up on the truthmaker project “when the ontological going gets a bit tough”.⁵³ In the next chapter we shall investigate whether a weakened version of the truthmaker principle is worth holding.

⁵² Armstrong (2004), pg. 61.

⁵³ Armstrong (2004), pg. 55.

For now, however, it suffices to note that the argument from maximality stands or falls with the Enumeration Argument, for they pull on the same metaphysical intuition, namely that mere particular facts do not yield an ontology robust enough, that something further is required.

2.4 Fecundity and Simplicity

A further argument in favor of general facts proceeds from the claim that positing one such fact, the Russellian ‘collector’ fact would excise an enormous number of negative facts from an otherwise bloated ontology. Such an effective ontological debriding agent is not to be lightly cast aside given the difficulty many philosophers have found in accounting for true negations.

Armstrong notes that the acceptance of a “highest order” state of affairs yields such a simplified ontology. He admits that in accepting such a fact, while “we have *not* got away completely from negative states of affairs”, nevertheless,

a very great ontological economy has been effected. We get rid of the ontological nightmare of either a huge number of negative properties or a huge number of negative states of affairs, and substitute for them a single *all* state of affairs.⁵⁴

This is anything but clear.⁵⁵ Whether the cost of a general fact is worth the economy remains to be shown. I shall argue in the next chapter that general facts are perhaps more trouble than they are worth. For accepting them might lead to ontological extravagance, regress, or worse, paradox.

⁵⁴ Armstrong (2004), pg. 58.

⁵⁵ See Herbert Hochberg’s discussion in section 5 of his “D. M. Armstrong, *A World of States of Affairs*” *Nous* 33:3 (1999) 473-495.

2.5 Concluding Remarks

As we have seen, factual atomism is—at first blush—incompatible with a robust truthmaker principle and with Russell’s version of correspondence theory. This apparent incompatibility has seemed to some a good reason for rejecting the atomist’s project. But, one’s *modus ponens* is another’s *modus tollens*. A close look at the prospects for truthmaking theory might result in reasons for abandoning, or at least weakening, the truthmaker principle.⁵⁶

In the next chapter, we shall consider arguments against general facts. We shall turn our attention first to an account of the felt need for general facts. Phillip Bricker maintains that the truthmaker principle must go if we are to rid our factualist ontology of general facts. We turn to his proposed solution.

⁵⁶ Damian Cox makes this observation in his article, “The Trouble with Truth-Makers,” *Pacific Philosophical Quarterly* 78:1 (1997): 45-62.

3. The Case against General Facts

3.0 Bricker's Subject Matter View

In a recent paper, Phillip Bricker attributes the longevity of the debate over general facts to there being, “two relations between propositions—entailment and supervenience—either of which, at first glance, might plausibly be taken to be necessary for ontological determination.”¹ A more penetrating look, however, should reveal that there is something fishy about taking *any* relationship between propositions to have ontological import. What is it, one might reasonably ask, about some proposition *p*'s failing to entail some proposition *q* that entitles us to make a claim about what there is? Or, why should some class of propositions *A*'s supervening on some other class of propositions *B* justify an ontological assertion?² In either case, there appears to be a suppressed premise. Advocates of either logical relation as a necessary condition for ontological determination owe us a statement of their tacit premise.

Bricker attempts to pay this debt. Bricker presents and defends a version of the Supervenience Argument against general facts: general truths supervene on atomic ones, so general facts are superfluous. The argument comes in two strengths. The weak version concludes merely that general facts are not *needed*. The strong version concludes there are no such facts. While both versions will be of interest here, since the strong version depends on Bricker's Humean antipathy for necessary connections between

¹ Bricker (forthcoming) pg. 5.

² Talk of one class of propositions supervening on another is admittedly strained. For supervenience theses are generally construed of as asserting necessary covariation of property instantiation. Bricker attempts to salve this strain by assuring us that propositions can be thought of as properties of worlds (pg. 12, fn 27). I am uncertain as to whether the balm is sufficient to soothe the strain here, but in what follows I shall grant Bricker his notion of proposition-supervenience.

distinct existents, in the interest of maintaining neutrality, I shall have little to say about it.

Bricker also considers what he calls the Non-Entailment argument, the original formulation of which he attributes to Russell, its latter-day resurrection with a “truthmaker twist” to David Armstrong.³ According to this argument, atomic truths do not entail general ones, so we must allow general facts. Bricker’s formulation of the Russellian argument differs somewhat from what I have called the Enumeration Argument. Bricker considers two versions of the argument, one I call Russell’s ‘unadorned’ version, and the other I call Armstrong’s ‘truthmaker’ version. We have considered the latter in some depth in chapter two. Again, Bricker is moved by his Humean views in dismissing Armstrong’s version, so some of the discussion will be unhelpful to the neutral or anti-Humean factual atomist.

In what follows, I shall assess Bricker’s treatment of these arguments in order to determine whether his views support factual atomism. In the first section, I maintain that Bricker’s treatment of the unadorned Russellian argument leaves general truths ungrounded. In the second section, I argue that his Supervenience argument presupposes a non-actualist metaphysics of modality. The factualist who is also a strict actualist will therefore be unable to avoid an ontology of general facts by appealing to Bricker’s argument. Even given an ontology of merely possible facts, however, I shall argue that there are still problems with Bricker’s argument. In the end, I suggest that it was perhaps misguided to seek in either entailment or supervenience a necessary condition for

³ Bricker (forthcoming), pg. 6, fn. 14.

ontological determination. First, though, I turn my attention to Russell and the Non-Entailment argument.

3.01 The Non-Entailment Argument

Atomic propositions do not entail contingent general propositions. As Russell points out, “[y]ou never can arrive at a general proposition by inference from particular propositions alone. You will always have to have at least one general proposition in your premises.”⁴ Of course, Russell is here talking about formal entailment. By ‘proposition’ here, Russell means a sentence of a formal language. Russell denies that there is a valid deductive inference that has as premises only atomic sentences and as a conclusion a universally quantified sentence. As Bricker parenthetically comments, Russell most likely had in mind formal entailment “within an *ideal language*”.⁵ So, while Russell here comments on the lack of entailment between atomic sentences and general ones, since there is a one-one correspondence between sentences in the ideal language and propositions, we may take his remarks to apply equally to propositions.

Bricker provides a detailed critique of arguments for the non-entailment thesis; I shall merely take it for granted.⁶ I shall use Bricker’s “global” formulation of the non-entailment thesis:

⁴ Russell, (1956), pg. 235.

⁵ Bricker (forthcoming), pg. 6, emphasis mine.

⁶ Bricker considers arguments for the non-entailment thesis that “start from a *base* world, perhaps the actual world, and then move to an *expanded* world at which the atomic truths at the base world still hold, but some general truth at the base world fails to hold.” (Bricker, pg. 7). There are two sorts of expansion that have been called upon to support non-entailment, which Bricker calls “vertical” and “horizontal” expansion

Global Non-entailment Thesis (GNET): At any world (at which there are contingent general truths), some contingent general truth is not entailed by the class of atomic truths.⁷

This non-entailment thesis is somewhat weaker than Russell's which claims that *no* class of atomic propositions entails *any* general proposition. The weaker thesis shall suffice, for if just one general truth is not entailed by the class of atomic truths at a world, we shall have a presumptive reason for postulating general facts.

As Russell was working with a notion of formal derivability, talk of worlds is somewhat foreign to his argument. For the present purposes, though, this is harmless, as formulating entailment as "*strict implication* defined in terms of possible worlds" appears to retain the force of Russell's original argument well enough for present purposes.⁸

Bricker defines the entailment of one class of propositions *A* by another class *B* as follows.

B entails *A* iff every world at which every member of *B* is true is a world at which every member of *A* is true.⁹

The unadorned Russellian argument (R) is as follows:

respectively. He considers these arguments suspect as there are "positions in the metaphysics of modality on which one or both of these methods of arguing may be blocked." Ultimately, Bricker endorses the non-entailment thesis, albeit in a stronger version, as a result of an argument which he claims is not blocked by such metaphysical concerns. I gloss over this discussion here, as these concerns are orthogonal to his treatment of the non-entailment argument.

⁷ Bricker (forthcoming), pg. 6.

⁸ Ibid, emphasis in original. Although, there is some reason to suspect that construing the argument in this way robs it of the epistemic import Russell thought it had. According to Russell, one of the consequences of non-entailment of the general by the particular was that in order to come to know general truths, we had to have some epistemic access to general truth that was in some way primitive.

⁹ Bricker (forthcoming), pg. 6.

- R1. GNET is true.
- R2. If GNET is true, then general facts are needed in addition to atomic facts.
- R3. General facts are needed in addition to atomic facts.

As stated, (R) appears to have a suppressed premise. The premise, presumably, would be some claim that links the antecedent of (R2) with its consequent. Otherwise, we are left asking where the ontological significance of (GNET) comes from.

One way to respond, perhaps the way Russell favored, would be to suggest that true propositions are true in virtue of some fact or other. The relevant sense of ‘in virtue of’ would seem to be some kind of entailment. This would not be the sort of entailment that holds between propositions, but rather some cross-categorical relation that holds between some bit of reality, in this case a fact, and a proposition. The requirement that true propositions ‘correspond to the facts’ in such a way would supply the connection that seems lacking between (R2)’s antecedent and its consequent. The fleshed-out version of the argument (R+) is as follows:

- R+1. (GNET) is true.
- R+2. If (GNET) is true, then some general truth is not true in virtue of the atomic facts.
- R+3. If so, there is a general fact (or a non-atomic fact) in virtue of which that truth is true.
- R+4. There is a general fact (or a non-atomic fact).

Since there is one, the argument could continue, there is no ontological reason to deny more than one, so we have an ontology that includes general facts. (R+3) is supported by the thesis that every true proposition is true in virtue its correspondence to the facts.

As Bricker maintains the soundness of the Supervenience argument, he thinks the Non-Entailment argument must go wrong somewhere. We shall see below that his Humean scruples decide against its truthmaker version, but for now let us consider his contention that, “the Non-Entailment Argument can be attacked directly without relying on Humean principles.”¹⁰ Bricker displays his non-Humean grounds for rejecting the argument in the following passage:

...when we look more closely at *why* such entailment [as mentioned in (R)] fails...we find nothing to support the need for general facts. Entailment fails because there are two worlds, w and w' , such that all the atomic truths at w are true at w' , but some general truth at w is false at w' . What grounds this difference in general truth between w and w' ? There are atomic propositions true at w' that are not true at w . Thus, for the factualist, there are entities that exist at w' —atomic facts—that do not exist at w . This difference in the existence of atomic facts is all that the proof [of GNET] needs to ground the difference in general truths...[n]o mention of general facts here...¹¹

This explanation seems very friendly to the atomist. Let G be some general proposition that is true at w but false at w' . According to Bricker, all we need in order to explain the difference in the truth of G between these two worlds are the atomic facts. I suggest, though, that the atomist should be wary of accepting this explanation for the following reason.

Let us concede Bricker’s point for the moment. Still it is not just the *difference* in the truth of G between w and w' we want explained. When arguing for the non-entailment thesis we had a pretty good idea *why* the entailment would fail; that’s why we picked w and w' around which to form our argument. What we want instead is an explanation, a grounding of, G ’s truth at w and its falsehood at w' . An explanation of G ’s falsehood at w' is easy: G is false at w' because there exist some extra atomic facts

¹⁰ Bricker (forthcoming), pg. 32.

¹¹ Ibid, emphasis in the original.

$\{a_1, \dots, a_n\}$ that are inconsistent with its truth. These extra facts, taken with the others, will be enough to *entail* that G is false, so there are no problems here. But, for the factual atomist, the problematic case is not the falsehood of G at w' , rather it is the truth of G at w . If the existence of the extra facts $\{a_1, \dots, a_n\}$ at w' explains why G is false there, does the *non-existence* of these facts at w ground G 's truth there? If not, does the class of atomic facts at w ground its truth? Either way seems unsatisfying.

Assume that the former is the case. Then, Bricker seems to deny the assumption, implicit in (R) and more explicit in (R+), that every true proposition is true in virtue of some fact or class of facts. For, presumably, even though absences of atomic facts look suspiciously like negative facts, the absence at w of $\{a_1, \dots, a_n\}$ does not constitute a negative fact on Bricker's view. For Bricker's reason for inveighing against general facts is to close off an avenue of support for a factualist ontology over a so-called "thing ontology." The existence of negative facts would leave open the same avenue.¹² For the atomist, though, accepting negative facts here means escaping the frying pan for the fire. Bricker, then, oughtn't to be read as suggesting this.

So, Bricker appears to maintain that some true propositions: e.g. G at w , can be true in virtue of an absence of atomic facts (where this is understood so as not to imply that there is a *fact* that there are no such facts). Perhaps we are wrong to look for a positive feature of reality that grounds general propositions, but for all this, it seems like

¹² Bricker maintains, in his introduction, "As long as one considers only the case for (positive) *particular* facts, it seems, the dispute between factualists and thing theorists is either subsumed under a more general dispute over *de re* modality, or is transformed into a dispute over realism about properties. But when one considers instead the case for *general* facts, one comes up against a genuine disagreement. If a factualist can successfully argue that general facts exist as something "over and above" particular facts and particular things, then the thing theorist is in trouble." Supposedly, if the factualist can argue for *negative* facts successfully, the thing theorist is likewise in trouble.

letting absences do the work is giving up when the ontological going gets tough.¹³

Furthermore, just how seriously are we to take absences of atomic facts? Is there an ontological category into which absences fit? Are we to quantify over them? It is unclear.

Bricker's reply to the above worry would no doubt be to reject the search for an ontological ground for general propositions. A demand for such a grounding would presumably take the form of a truthmaker principle. So, it is to the truthmaker version of the Non-Entailment argument and Bricker's criticisms of it that I now turn.

The "truthmaker twist" to which Bricker alludes in an early footnote comes in the form of Armstrong's demand for truthmakers for true propositions. In a way, we have already tangled with a version of this claim in our discussion of (R+). There it took the form of a principle requiring that every true proposition be true in virtue of some fact or class of facts. Bricker's formulation of the truthmaker principle yields, for the factualist, much the same result. Bricker formulates the truthmaking relation as follows.

a (non-empty) class of actual entities *E* provides *truthmakers* for a (non-empty) class of truths *A* iff every world at which every member of *E* exists is a world at which every member of *A* is true.¹⁴

The principle that Armstrong requires is, according to Bricker,

Truthmaker principle [TP]: Every (non-empty) class of truths has truthmakers.¹⁵

¹³ This is Armstrong's turn of phrase.

¹⁴ Bricker (forthcoming), pg. 27.

¹⁵ Ibid. Bricker leaves the formulation in the plural. He points out, "Whether or not this is equivalent to requiring a single truthmaker for every truth depends on one's views on unrestricted mereological

It is natural for a factualist who accepts (TP) to claim that the facts that exist at a world are the truthmakers for the propositions that are true at that world. So, we seem to have the makings of the following *reductio* of factual atomism.

- (T1) Suppose factual atomism is true.
- (T2) (TP) is true.
- (T3) If (T1) and (T2), then the atomic facts are truthmakers for every true atomic proposition.
- (T4) If the atomic facts are truthmakers for every true atomic proposition, then the atomic facts are truthmakers for true general propositions.
- (T5) The atomic facts are truthmakers for true general propositions.
- (T6) An atomic fact exists iff its corresponding atomic proposition is true.
- (T7) If (T5) and (T6), then the true atomic propositions entail the true general propositions.
- (T8) If the true atomic propositions entail the true general propositions, then (GNET) is false.
- (T9) (GNET) is true.
- (T10) Factual atomism is false.¹⁶

While Bricker, as a thing theorist, does not feel bullied by TP into endorsing general facts, he maintains that matters are different for the factualist. Bricker's strategy in dealing with TP is to "accord it no fundamental ontological importance."¹⁷ Bricker is able to endorse TP while refraining from allowing general facts, as he construes of the world as a thing. While too much discussion of thing theory would bring us outside the scope of the present endeavor, a few words on Bricker's view here bear mention.¹⁸

composition and mereological essentialism" (fn 46). I shall follow Bricker in staying neutral on these matters.

¹⁶ This schematic version of the argument is gleaned from Bricker (forthcoming), pg. 27.

¹⁷ Bricker (forthcoming), pg. 30.

¹⁸ A 'thing' on the view Bricker endorses, is an ontological primitive on par with the factualist's facts.

Bricker seeks to answer “what thing (or *things*) could make a general truth true?”¹⁹ As an example he selects,

(P) All planets are less than 10^{30} kilograms in mass.²⁰

Bricker claims that, “[a] truthmaker for this proposition must somehow include, not only the planets, but the spaces between the planets.” For, if merely the planets were truthmakers for (P), they could not rule out the existence of an extra, jumbo planet somewhere in the cosmos.

But, Bricker maintains, “such a truthmaker is not far to seek. Although no proper part of the world will do as truthmaker for this or any other (contingent) general truth, the world as a whole does the job just fine...”²¹ Against the complaint he anticipates from Armstrong that the world as a whole might have been a proper part of some bigger world, one which did contain a jumbo planet, Bricker claims that it is essential to the world that it is a world; that is, the biggest thing. According to Bricker, “so far as general truths are concerned, a thing theorist is free to accept the Truthmaker Principle by holding, at least in truthmaking contexts, that the world is essentially a world.”²² The upshot is that the world, *qua* world, could not occur as a proper part of anything bigger. The predicate ‘is a world’ expresses, in Sider’s terminology, a maximal property. So, the thing theorist can

¹⁹ Bricker (forthcoming), pg. 28.

²⁰ He supposes, “for the sake of argument that this proposition is true” (Bricker (forthcoming), pg. 28.

²¹ Bricker (forthcoming), pg. 28.

²² Bricker (forthcoming), pg. 30.

retreat, when it comes time to find necessitating truthmakers for general truths, to the position that the whole world makes them true.

This move, Bricker claims, is off limits for the factualist: the factualist must either deny (TP) or pay for it with an ontology of general facts. He says, “[t]he strategy of holding onto the Truthmaker Principle by allowing the world to be composed entirely of atomic facts while taking the world nonetheless to be a truthmaker for general truths is not available to the factualist.”²³ Why does he think this is the case? The answer immediately follows:

for any fact, necessarily, the fact exists if and only if its corresponding proposition is true. I take this to be constitutive of what facts are *vis-à-vis* their role as truthmakers. But now suppose that the world is merely the aggregate—i.e., the conjunction—of all the atomic facts. Then, necessarily, if all the atomic facts exist, then the proposition that is the conjunction of all the atomic facts is true, and so the world exists as well—even if additional atomic facts exist. The world could not have any properties...such as the property: being the *totality* of atomic facts. And so the world could not be the ‘extra truthmaker’ required by the Non-Entailment Argument.²⁴

I take Bricker to be speaking rather loosely here. For, there is no proposition that is the “conjunction of all the atomic facts”. There is, however, a proposition that is the conjunction of all the true atomic *propositions*. But, this is not what the factualist maintains the world is. The world, according to the factualist, is the mereological sum of the facts. According to the factual atomist, it is the mereological sum of the atomic facts. Whenever this sum exists—as Bricker rightly observes—the conjunctive proposition is true.

²³ Bricker (forthcoming), pg. 31.

²⁴ Bricker (forthcoming), pg. 31-2.

It might seem right, though, that the factual atomist cannot claim that the world exists when and only when the mereological sum of the atomic facts exists *and no more facts exist*. For this latter conjunct would appear to require the existence of a higher-order, or non-atomic fact. While it is not immediately clear that this is the case, let us grant it.

So, the factual atomist must reject the Truthmaker Principle. Bricker maintains that the Humean thesis that there are no necessary connections between distinct existences ought to tip the balance against the Truthmaker Principle. Given our present goal of neutrality with respect to the Humean thesis, however, we are not entitled to reject the truthmaker principle on these grounds. Bricker has given the neutral factual atomist, then, no reason to reject the truthmaker argument save for the unwelcome ontology of general facts.

Bricker gives the atomist no reason, that is, unless his Supervenience Argument is successful. It is then with high hopes that we turn to his discussion of that argument.

3.02 The Supervenience Argument

Bricker claims that “[i]f the Supervenience Argument is sound, the Non-Entailment Argument is not, and, for the factualist, the culprit must be the truthmaker principle.”²⁵ If he is right, then the Supervenience Argument gives us a reason to reject TP, and hence to reject Armstrong’s truthmaker version of the Non-Entailment Argument.

²⁵ Bricker (forthcoming), pg. 32.

Bricker begins by considering an unadorned version of the Supervenience

Argument that begins with the following thesis.

Global Supervenience Thesis (GST): If any two worlds agree on all their atomic truths, then they agree also on all their general truths.²⁶

Although Bricker argues at length that the factualist should accept GST, I shall take it for granted. The relevant notion of supervenience is captured in the following biconditional.

A globally supervenes [hereafter, supervenes] on *B* iff for any worlds *w* and *w'*, if the *B*-truths at *w* coincide with the *B*-truths at *w'*, then the *A*-truths at *w* coincide with the *A*-truths at *w'*.²⁷

The *A*-truths (*B*-truths) at some world w_i are just those propositions in *A* (*B*) that are true at w_i .

The unadorned version (S) of the argument is as follows:

(S1) (GST) is true.

(S2) If (GST) is true, then general facts are not needed in addition to atomic facts.

(S3) General facts are not needed in addition to atomic facts.²⁸

Just as the Russellian argument (R) left us feeling as though something was missing, so too (S) appears to rely on a suppressed premise.

²⁶ Bricker (forthcoming), pg. 12. Bricker uses the term 'agree' here, I take it that this is equivalent to his later notion of truths at a world 'coinciding' with truths at another world. The relevant sense seems to be something like the following. Two worlds w_i and w_j agree on their atomic truths just in case for any atomic proposition *p*, *p* is true at w_i iff *p* is true at w_j . That nothing more is required of 'coincidence' seems plain.

²⁷ Bricker (forthcoming), pg. 17.

²⁸ Bricker cites David Lewis's "Armstrong on Combinatorial Possibility" pp. 201-207 in connection with such an argument.

In order to draw out and formulate that premise precisely, Bricker considers two *prima facie* objections one might lodge against (S), “one having to do with the relation between supervenience and determination (or dependence), the other having to do with the relation between supervenience and reduction.”²⁹ I shall consider each in turn.

The first objection is that supervenience, as it is formulated above, is insufficient for ontological determination. According to Bricker, ontological determination is whatever relation holds between classes of propositions that supports locutions like ‘in virtue of’. So, whenever the propositions in some class *A* hold *in virtue of* the holding or failing to hold of propositions in *B*, we shall say that *B* ontologically determines *A*.³⁰ Ontological determination, at least when its relata are non-identical, strikes one as an asymmetric relation. But, for some non-identical classes of propositions, supervenience is symmetric. Bricker’s example is the class of atomic propositions and the class of the denials of the atomic propositions. Each class supervenes, in the relevant sense, upon the other. Yet, the objection goes, we would be loath to say they ontologically determine *each other*.

Bricker’s reply is twofold. First, he accepts this result. Supervenience all by itself is insufficient for ontological determination. But, he goes on to identify two approaches to the problem of finding an adequate notion of ontological determination.

“The approach I favor asks,” Bricker says, “What must be added to supervenience to get

²⁹ Bricker (forthcoming), pg. 19.

³⁰ *Ibid.* Although I shall stick with his usage, I think Bricker’s term ‘ontological determination’ is a misnomer. For, use of the adjective ‘ontological’ seems to imply that it is the *existence* of the determining propositions that entails the *existence* of the determined propositions. But, any class of propositions determines any other class trivially in this sense: they are all necessary existents. I suggest ‘alethic determination’ as a replacement.

ontological determination?” The other approach abandons this project in favor of the view that “[s]upervenience...is a superficial relation that must be *explained* by some deeper, metaphysical relation of ontological determination.” According to Bricker, the second approach is to be shunned as it claims a relation of primitive ontological determination that is “dark and mysterious.” He places this move on par with accepting primitive modality, and vituperates against theorists who opt for these maneuvers, likening their acceptance of a possible worlds framework to buying the dog and doing the barking themselves.³¹

In order to avoid this gratuitous barking, Bricker suggests fleshing out an analysis of ontological determination in terms of supervenience. He gets us started with some “ingredients of a correct analysis”: “the notion of a fundamental, or perfectly natural, property or relation.” He goes on to say, however, that “since we are concerned with supervenience of *propositions*, rather than properties and relations, we will need a derived notion of fundamental that applies to classes of propositions.” Presumably, this will be some notion of conceptual or analytic priority. According to Bricker, given these ingredients, “a plausible sufficient condition on ontological determination can be formulated: *A* is ontologically determined by *B* if *B* is fundamental, and *A* supervenes on *B*.”³² This condition, I shall call it Supervenience-Plus, Bricker maintains, is enough to secure the ‘in virtue of’ locutions to which he earlier alludes. He tries out Supervenience-Plus on a test case (the example he used previously):

³¹ Bricker (forthcoming), pg. 20.

³² Ibid.

...let us see how this partial analysis applies to our example with symmetric supervenience. We say: the denials of atomic propositions hold or fail to hold *in virtue of* the holding or failing to hold of the atomic propositions, not the reverse. Why? Surely, the class of atomic propositions is a fundamental class; it consists entirely of predications of fundamental properties and relations. Although supervenience goes in both directions...only one direction corresponds with the true order of analysis. Fundamentalness of the base propositions supplies the direction, and turns supervenience into ontological determination.³³

So, we see a strategy for developing (S) begin to emerge. If Supervenience-Plus is acceptable, and the 'in virtue of' locution is ontologically loaded, we shall have, in the supervenience of the general on the particular, a conclusive reason for resisting general facts. In order to flesh out the argument fully, he goes on to consider the second *prima facie* objection to (S).

The second objection involves the relationship of supervenience to reduction. Even if we grant Supervenience-Plus, that is, that "under the right conditions, supervenience goes hand in hand with ontological determination," according to Bricker's imagined critics, "ontological determination, as characterized, is a relation of conceptual or analytic priority." One might maintain that, for all Bricker has said, supervenience doesn't pack any metaphysical punch. It is with an aim to securing this ontological oomph for supervenience that Bricker introduces the notion of a subject matter. He says that a non-empty class of entities *E* provides a subject matter for a class of propositions *A* just in case "the existing or failing to exist of members of *E* entails the truth or falsity of members of *A*."³⁴ More precisely, let us call *X* an *existence proposition over* some class of entities *E* if, and only if, (i) *X* is a conjunctive proposition that contains a conjunct

³³ Bricker (forthcoming), pg. 21.

³⁴ Bricker (forthcoming), pg. 22.

either affirming or denying, but not both, the existence of every member of E ³⁵, and (ii) X does not contain conjuncts that affirm or deny the existence of entities that are not members of E . Given this notion of an existence proposition over a class of entities, we may understand Bricker's more exact notion of a subject matter:

E is a subject matter for A iff for any contingent existence proposition X over E and for any proposition Z in A , either X entails Z or X entails not- Z .³⁶

The intuitive idea behind a subject matter for a class of propositions is that of a set of things the propositions are *about*.³⁷ This definition of a subject matter, together with the Subject Matter Principle:

Subject Matter Principle (SMP): Every (non-empty) class of propositions has a subject matter.³⁸

gives us a perfectly reasonable sense in which the supervenience of the general on the particular is ontologically weighty. For, “[i]t follows immediately from the definitions that if A supervenes on B , and E is a subject matter for B , then E is a subject matter for A .” So, we seem to have an open and shut case: general propositions supervene on atomic propositions; the atomic facts are a subject matter for the atomic propositions; so,

³⁵ Of course, in cases where E has only one member, the existence proposition X will not be conjunctive.

³⁶ Ibid. Note, this formulation is my adaptation of Bricker's formulation; In my view it retains his intent.

³⁷ This might not seem quite right, as the proposition expressed by the English sentence, “John is bald,” is about John in the relevant sense, but according to some views, if John doesn't exist, it is not false but unevaluable. So, I take it, Bricker is assuming a view according to which the proposition about John is false at worlds where he doesn't exist.

³⁸ Bricker (forthcoming), pg. 23.

the atomic facts are a subject matter for the general propositions.³⁹ Schematically, the argument (S+) is as follows.

(S+1) (GST) is true.

(S+2) (SMP) is true.

(S+3) The atomic facts are a subject matter for the atomic propositions.

(S+4) If (S+1)-(S+3), then the atomic facts are a subject matter for the general
_____ propositions.

(S+5) The atomic facts are a subject matter for the general propositions.

(S+6) If (S+5), then general facts are not needed in addition to atomic facts.

(S+7) General facts are not needed in addition to atomic facts.

If (S+) is indeed sound, factualism is not committed to general facts.

Unfortunately, accepting (S+) comes at a high price. I shall argue below that accepting this argument involves accepting a substantive thesis in the metaphysics of modality.

But, for the mean time, I wish to consider some other problems.

First, it is perhaps initially unclear what role Supervenience-Plus plays in the argument. It does not come in as a premise. It seems to be part of the justification for (S+6). For, presumably, the atomic propositions and the negations of same share a subject matter: the atomic facts. We get out of positing negative facts, Bricker would claim, in virtue of the fact that the atomic propositions, via Supervenience-Plus, ontologically determine their negations. Supposedly, the case is the same with respect to general propositions and the atomic propositions. But, one might justifiably ask, on what grounds ought we to endorse Supervenience-Plus over its rival:

Entailment-Plus: *B* ontologically determines *A* if (i) *B* is fundamental and (ii) *B* entails *A*.

³⁹ Bricker (forthcoming), pg. 24.

According to Bricker, when *A* supervenes on *B*, they share a subject matter. So, it could be in virtue of a common subject matter and the fundamental-ness of *B* that *B* determines *A*. But, as Bricker earlier proves, entailment is a stronger notion than supervenience. So, when *B* entails *A*, *A* supervenes on *B*, and they therefore share a common subject matter. So, Entailment-Plus seems to work just as well at generating, along with the fundamental-ness of the entailing class of propositions, ontological determination. Where does the bias in favor of supervenience come from? An answer is not forthcoming.

Also, it seems that the derived notion of a fundamental proposition is inadequately understood. Clearly atomic propositions are fundamental, but are conjunctive propositions more fundamental than disjunctive ones? Than general ones? Than modal ones? This is unclear, and moreover, there doesn't seem any indication in Bricker's discussion of how to make it clear.

Let us turn our attention back to the supervenience of the general on the particular. According to Bricker, since the general propositions and the atomics share a subject matter—the atomic facts—and the atomic propositions are fundamental, the former are determined by the latter. What is it about the definition of a subject matter that gets us to this conclusion? Let us call the class of all actual and possible atomic facts *E*, the class of atomic propositions *A*, and the class of general propositions *G*.⁴⁰ So, an existence proposition over *E* will be a proposition that affirms, for each atomic fact, whether or not it exists. What is a proposition affirming or denying the existence of an

⁴⁰ There are strict actualist worries about such a class as *E*, see below.

atomic fact? The likeliest candidate is an atomic proposition or the denial of an atomic proposition. Let us make the simplifying assumption that E has finitely many members n . So, the class of existence propositions over E will contain 2^n members, one for each possible combination of atomic propositions and their denials. Let us call this class of existence propositions R . According to Bricker, for every member r_i of R , and every member g_i of G , either r_i entails g_i or r_i entails not- g_i .

Herein lies the rub: what is it exactly about the members of R that secures this entailment? The answer seems to be that they are, in some sense, *complete*. The various r_i have something to say about *all the facts* there are or could be; they are silent about *nothing*. This, one might object, seems like cheating. In order to avoid general facts, we've gone and built them right into our analysis of subject matter!

At this point, a critic of the Supervenience Argument might justifiably ask just what work is being done by the supervenience of the general on the particular. It seems that all supervenience is doing here is securing that the general propositions and the atomic ones share a subject matter: the atomic facts. But, it is the sameness of subject matter that shows general facts aren't needed. What drives the inference from sameness of subject matter to the superfluity of general facts, however, is that every existence proposition over E entails every general proposition or its denial. It seems that, in the way he defines 'subject matter', Bricker has smuggled in entailment as an ontologically loaded relation. The fact that the existence propositions over E entail the general truths explains why nothing but atomic facts are needed. But why not, our critic might go on to ask, just let entailment do the ontological work from the beginning?

These considerations lead us to my final objection.⁴¹ It might seem to some factual atomists with strong actualist intuitions that talk of a class of all actual and merely possible atomic facts is misguided. When the actualist says, ‘the facts’ he means ‘just the facts as they actually are. Period.’ On such a view, since *E* exists just in case its members do, there just is no such thing as *E*, so it cannot be the subject matter for anything, *a fortiori*, it cannot be the subject matter for the class of general propositions.

As I have before mentioned, I wish to remain neutral in the current project with respect to the actualism vs. possibilism debate. The apparent need for a class of entities such as *E*, then, undermines our ability to take Bricker’s supervenience argument as support for factual atomism. Granted, there might be atomists for whom Bricker’s picture counts as support for their atomism; however, we shall not so count it here. If a version of Bricker’s subject matter principle can be presented that does not rely on there being such a class of entities as *E*, I gladly welcome it.⁴²

Bricker suggests a stronger version of the above argument that proceeds from a non-distinctness principle for subject matter:

Non-Distinctness of Subject Matters (NDSM): No contingent proposition has two distinct subject matters.⁴³

According to the strong version of the argument, since the atomic facts are a subject matter for the general facts, by (NDSM), they are the *only* subject matter for these

⁴¹ This is, as G. W. Fitch rightly points out, not an objection to *Bricker’s* view, merely an objection to the appropriation of his view by the neutral factual atomist.

⁴² Below we shall consider a version of linguistic ersatzism about possible worlds that, in my opinion, can circumnavigate this worry.

⁴³ Bricker (forthcoming), pg. 25.

propositions. It follows that there are no general facts. But, as this principle seems motivated by Bricker's Humean concerns, I shall not address it here. I shall only reiterate the above complaint that it seems as though the entailment smuggled in by means of the definition of subject matter does the real work here. For a view on which it is supervenience and not entailment that is necessary for ontological determination, this is problematic.

3.03 Concluding Remarks

We have so far seen two projects come to something of a standstill. One of these was the attempt to formulate a notion of ontological dependence for which only propositional entailment suffices. The other was the project of formulating such a notion for which propositional supervenience is sufficient. Perhaps these projects failed to pan out because they were mistaken in their origin.

Logical relationships, such as entailment and supervenience, among propositions are supposed, some claim, to model relationships that obtain between fundamental portions of reality.⁴⁴ This view seems to presuppose the "dark and mysterious" primitive notion of ontological dependence at which Bricker bristles. But, for the moment, let us suppose that this modeling view is correct.

If this is the case, we are mistaken to attempt an analysis of ontological determination in terms of relations that hold between propositions. For, ontological determination is not, as I above suggested, a *cross-categorical* relation at all; it holds

⁴⁴ G. W. Fitch has expressed this view in conversation, at least about logical entailment.

between (for the factualist) facts. The existence of one fact entails the existence of another fact. This seems to be the essence of any relation that has any claim to the title *ontological* determination.

The friends of a Humean ‘no necessary connections’ thesis will be likely to gnash their teeth over this conception of ontological dependence, but let us—for the moment at least—cast aside our mantle of neutrality and run with this primitive notion. Isn’t something like this an intuitively plausible, commonsense view about reality? Isn’t this what the natural sciences purport to accomplish? Aren’t scientists attempting to discover, when faced with one fact, say f_1 , given the the laws of nature, what further fact or facts *must* exist? This view doesn’t seem ludicrous.

Again donning the mantle of neutrality, we can say at most that these projects have not proven successful, or at any rate, they have fought one another to a standstill. There seems nothing, at least as far as I know, to recommend entailment over supervenience as the privileged ontological relation. When two competitors have an equal claim to some title, it is good practice to take seriously the possibility that neither deserve it. Such might be the case here, though proponents of the entailment and supervenience views of ontological determination would probably remain unconvinced.

3.1 Problems for General Facts

We have examined Bricker’s supervenience line of resistance to general facts and set it aside on the grounds that it requires positing *possibilia*. In this section, we shall consider some further arguments against general facts. So far, the arguments on behalf of

general facts fall roughly into two categories. Arguments of the first sort seek to establish that general facts are required. Arguments of the second sort purport to demonstrate the theoretical fecundity of general facts. Accordingly, the arguments against general facts will be of two kinds: those that undermine or explain away the felt need for general facts and those that conclude that general facts lead to more problems than they solve. The first arguments I shall consider in this section are of this latter sort.

In this section I target Russell and Armstrong. Some arguments are more clearly directed at one rather than the other of these figures, but most of them can be tailored to fit the position of either. I shall begin by considering a couple of objections Armstrong anticipates.

3.11 The Regress Problem

The factual atomist might object that Russell and Armstrong's reasoning in favor of general facts seems to generate an infinite regress of facts. Armstrong considers this objection, attributing it to Damian Cox⁴⁵:

The highest-order state of affairs bundles together all lower-order states of affairs. But, the argument runs, the real *totality* of states of affairs is these lower-order states plus the highest-order state. Will not a still higher-order state of affairs be required to collect all states of affairs, including the great collector? An infinite regress is off and running. At the very best, it may be urged, there is a colossal failure of economy.⁴⁶

This statement of the argument is somewhat condensed. We shall move more slowly.

⁴⁵ Cox (1997).

⁴⁶ Armstrong (2004) pg. 78.

Let f_1, \dots, f_n be all the atomic facts. It is clear that Armstrong thinks

(1) $\langle f_1, \dots, f_n \text{ are all the facts} \rangle$

requires a higher-order truthmaker. This truthmaker, let us call it G , includes as its constituents “the mereological whole (or manifold) of all the lower-order states of affairs” and “the very abstract” property of “*being a state of affairs*”.⁴⁷ On Armstrong’s view, G contains a further constituent, the “totaling or alling relation,” which he symbolizes as ‘Tot’.⁴⁸ This relation stands between a mereological fusion U and a property P just in case the parts of U exhaust the things that have P .

According to Armstrong, the correct analysis of the highest-order fact is:

G : [Tot (fusion{ f_1, \dots, f_n }, *being a state of affairs*)]⁴⁹

G , however, is itself a state of affairs. It would seem, then, that the fusion of $\{ f_1, \dots, f_n \}$ doesn’t *really* stand in the totaling relation to the property of being a state of affairs, for it does not exhaust the states of affairs. It seems that a further fact is required in order to provide a truthmaker for $\langle \text{the fusion of } \{ f_1, \dots, f_n, G \} \text{ exhausts the property } \textit{being a state of affairs} \rangle$. It would appear that a regress is under way.

⁴⁷ Armstrong (2004) pg. 74. Armstrong uses the term ‘state of affairs’ to mean what I mean by my use of ‘fact’. I shall use the two terms interchangeably in this section.

⁴⁸ Armstrong (2004) pg. 73.

⁴⁹ Armstrong (2004) pg. 74.

Armstrong seems to think this argument is easily answered. He claims that the regress worry “always looked like a bit of philosopher’s thought-play”.⁵⁰ Armstrong’s solution to this bit of mere thought-play is that of

...conceding that here we really do have a regress of *truths*. But we know from the general theory of truthmaking that different truths can all have the same truthmaker. So I suggest that what we have here, after the first collector, is no more than a series of truths which all have the very same truthmaking state of affairs, viz. the original ‘Russellian’ totality state of affairs. The necessity at each step after the first at least suggests that no increase of being is involved.⁵¹

While Armstrong concedes a regress of truths, he does not state explicitly what those truths are. Perhaps he has in mind something like:

F^1 : $\langle f_1, \dots, f_n, G \text{ are all the facts there are} \rangle$
 F^2 : $\langle \text{It is a fact that } f_1, \dots, f_n, G \text{ are all the facts there are} \rangle$
 F^3 : $\langle \text{It is a fact that it is a fact that } f_1, \dots, f_n, G \text{ are all the facts there are} \rangle$

and so on *ad infinitum*. This regress shouldn’t trouble us, for whatever is a truthmaker for F^1 is a truthmaker for all the members of this infinite series. There is some evidence that this is something like what Armstrong has in mind, for he goes on to say,

There is a parallel, though admittedly in a simpler case. Suppose $\langle p \rangle$ is true, then $\langle p \text{ is true} \rangle$ is true, $\langle \text{it is true that } p \text{ is true} \rangle$ is true, and so forever...the most natural position seems to be that all these truths have the very same truthmakers, the truthmakers for $\langle p \rangle$. Our symbolisms permit the regress, but it does not have ontological significance.⁵²

To the extent that I understand it, I think his response is mistaken. First, Armstrong’s analysis of the ‘Russellian’ fact is a non-starter. Armstrong’s analysis of this “collector” fact leads to the absurd conclusion that the collector fact is not a fact.

⁵⁰ *Ibid.*

⁵¹ *Ibid.*

⁵² Armstrong (2004) pg. 78.

For, if the fusion of $\{f_1, \dots, f_n\}$ stands in the alling or totaling relation to the property *being a state of affairs*, then nothing other than f_1, \dots, f_n can have this property. But G is not included among the f_i . So, on pain of contradiction, G cannot have the property *being a state of affairs*. But, *ex hypothesi*, G is a state of affairs—the highest-ordered state of affairs—and so would have that property. Something is clearly wrong.

In order to avoid this absurd conclusion, Armstrong must mean something like the following: the fusion of $\{f_1, \dots, f_n\}$ stands in the alling or totaling relation to the property *being an atomic state of affairs*. The collector, G , on this analysis, is still a fact—a second-order fact. Trouble, however, looms.

The worry about an infinite series of facts reappears in the form of the threat of an infinite ordered hierarchy of totality facts. It seems that on the present view, *pace* Armstrong, there can be no *highest-order* fact. Once second-order facts are admitted, an embarrassing question arises. Let J be the mereological sum of the second-order facts. What is the truthmaker for

* <There are no more second-order facts than those that are parts of J >?

It is not obvious that G is a necessitating truthmaker for this truth.

Perhaps G might have coexisted with more second-order facts, or with different second-order facts. For, consider the following pair of simple worlds: w_1 and w_2 . At each, there are only two particulars, a and b . At both worlds there are two monadic, first order properties, L and K , and one dyadic first order relation R . Let us suppose that a has L and K and b has K . Suppose further that a and b stand in the relation R to one another.

Now, at w_1 , the first-order facts are exhausted by the list $[L^2, a], [K^2, a], [K^2, b], [R^2, a, b], [R^2, b, a]$. So, if Armstrong's reasoning were sound, at w_1 there would be a further fact,

G_w : [Tot(fusion $\{[L^2, a], [K^2, a], [K^2, b], [R^2, a, b], [R^2, b, a]\}$, being a first-order state of affairs)]

Let G_w be the only second-order fact at w_1 . Let w_2 have the same atomic facts as w_1 .

Now, since the atomic facts at w_2 are identical to the ones at w_1 , G_w exists at w_2 . The only difference between w_1 and w_2 , is that while at w_1 it is merely accidental that all L 's are K , at w_2 there is a law-like connection between the universal L and the universal K .

Call this relation N . The truthmaker for the truth

(2) $\langle L \text{ bears } N \text{ to } K \rangle$

cannot be merely L and K themselves, for both exist at w_1 where the relation does not hold. So, it seems that a second-order fact, $[N^2, L, K]$ is the likeliest truthmaker. But, if this is the case, then G_w cannot be the truthmaker at w_1 for the true proposition $\langle \text{there are no more second-order facts than } G_w \rangle$. For, G_w does not necessitate this truth. It seems that a further, third-order fact will be required to do the job.

But, if two possible worlds can agree on their atomic facts and their Russellian collector fact while differing with respect to their second-order facts, then there is no guarantee that there are no worlds that agree with ours in these regards and yet differ with

respect to second-order facts.⁵³ So, it looks reasonable, barring any further argument to the contrary, to hold the view that G does not necessitate *. If G does not necessitate *, however, another totality fact seems required:

H : [Tot(fusion(J), being a second-order state of affairs)]

It seems clear that H cannot itself be a second-order fact—it must be a third-order fact. But, then the embarrassing question arises again with respect to the mereological sum of the third-order facts. And so on, *ad infinitum*.

Perhaps the above reasoning for the need of a third-order fact can be resisted. One might hold, for instance, that there are no contingent relations between universals. Indeed, something like this appears to be Armstrong's view about causal laws. In his chapter on truthmakers for causes and dispositions, Armstrong reminds us:

I have said at 4.4 that the attribution of properties to particulars in states of affairs may well be a necessary one. This should hold for polyadic states of affairs as well as monadic ones and also, it seems, for higher-order states of affairs, such as the particular sort of connection between universals that I hold to constitute a law of nature.⁵⁴

While Armstrong claims to have “had a change of heart about the instantiation of universals”, having been convinced by Donald Baxter's work that “the link [between

⁵³ Talk of merely possible worlds agreeing with respect to their atomic facts seems to presuppose that there are merely possible facts. I mean for the entire discussion of w_1 and w_2 to be understood as taking place within an ‘if’ clause. So, if w_1 were actualized, then $[L^2, a]$, $[K^2, a]$, $[K^2, b]$, $[R^2, a, b]$, $[R^2, b, a]$ would be all the atomic facts. But, there might have been a world just like w_1 with respect to these atomic facts, and yet if that world w_2 were actualized, there would be a further fact, namely $[N^2, L, K]$. And so on.

⁵⁴ Armstrong (2004) pg. 126.

universal and particular] is necessary”⁵⁵, not all factualists need be convinced. It is still a live option for the factualist that there are contingent connections between universals, and that these contingent connections constitute equally contingent laws of nature. If one opts for this latter position, it would seem that accepting Armstrong’s second-order Russellian collector fact would require accepting a further, third-order totality fact. For, the second order facts that constitute the contingent laws of nature at this world do not necessitate that they and the Russellian collector are all the second-order facts. But, once third-order totality states of affairs are accepted, there seems little to stand in the way of an infinite hierarchy of facts.

Given that a primary aim of the present endeavor is to remain neutral on the nature of properties and relations, I move that we suspend judgment on Armstrong’s preferred “instantiation as partial identity” view of first and second-order predication, and leave open the possibility that laws of nature consist in contingent connections between universals.

It might further be objected, however, that, while causal laws are contingent, nevertheless, they supervene on atomic facts.⁵⁶ So, the above pair of worlds is impossible. This is a very difficult issue. I am not aware of how to decide the matter one way or the other. For purposes of the present discussion, I wish to leave open the epistemic possibility that causal laws do not supervene. Our conclusion, then, is somewhat more hesitant. The factualist who accepts general facts should at least be

⁵⁵ Armstrong (2004) pg. 47.

⁵⁶ Thanks to G. W. Fitch for this point.

willing to accept an infinite hierarchy of higher-order totality facts if it turns out that causal laws do not supervene.

Perhaps this is not so bitter a pill to swallow. It does, however, put something of a damper on arguments for general facts from considerations of ontological economy. One claim Armstrong advances in favor of such higher-order states of affairs as his “collector” is that these states of affairs do the work that would otherwise be the province of a colossal number of negative facts or negative properties. But, if higher-order states of affairs cannot be had without an infinite hierarchy of them, this argument from ontological economy doesn’t go through. Why not instead accept a colossal number of negative facts or negative properties? Barring ontological economy, there is no principled reason in the offing.

3.12 The Argument from Causal Impotence

Armstrong anticipates another objection to general facts. He considers

[a] difficulty that may be (indeed, should be) proposed is that totality states of affairs fail the Eleatic Stranger’s plausible demand (*Sophist*, 247e) that it is a mark of the real that it should bestow power. That all things of a certain sort are *all* of that sort does not seem to be a power-bestowing factor in the way the world proceeds.⁵⁷

Earlier in his treatise, Armstrong formulates what he calls (after Graham Oddie) the Eleatic Principle as a methodological constraint on the metaphysical enterprise.

According to Armstrong,

⁵⁷ Armstrong (2004) pg. 76.

[t]he principle is perhaps best stated by saying that everything that we postulate to exist should make *some sort* of contribution to the causal/nomic order of the world.⁵⁸

He goes on to wield the Eleatic principle against “such truthmakers as other possible worlds, and any other transcendent entities that are not credited with causal powers *in this world*.”⁵⁹

So, we have the makings of an argument against general facts.

(C1) If we are rationally justified in positing general facts, then general facts must contribute to the causal/nomic order.

(C2) General facts do not contribute to the causal/nomic order.

(C3) We are not rationally justified in positing general facts.

Clearly, this argument does not rule out the possibility of epiphenomenal general facts; however, if it is sound, it does cast doubt on the reasonableness of accepting general facts.

Since (C1) is more or less an instance of the Eleatic Principle, Armstrong moves to reject (C2) on the grounds that general facts have some kind of attenuated causal potency. According to Armstrong “[t]otality states of affairs, it must be conceded, are not causally operative. But, they are, in general at least, causally relevant.”⁶⁰ So, Armstrong claims that there are two meaningful senses in which some existent *E* can contribute to the causal order: (i) *E* can contribute in virtue of being *causally operative* or (ii) in virtue of being *causally relevant*. (C2) is thus ambiguous between

(C2’) General facts are not causally operative,

⁵⁸ Armstrong (2004) pg. 37.

⁵⁹ Armstrong (2004) pg. 38.

⁶⁰ Armstrong (2004) pg. 76.

and

(C2'') General facts are not causally relevant.

On Armstrong's view, (C2'') is false. If we interpret (C1) correctly, Armstrong holds, we will exchange it for the more perspicuous

(C1') If we are rationally justified in positing general facts, then general facts must either be causally operative or causally relevant.

And, while (C2') is true, plugging it in for (C2) in the above argument generates the following invalid chain of reasoning:

(C1') If we are rationally justified in positing general facts, then general facts must either be causally operative or causally relevant.
(C2') General facts are not causally operative.
 (C3) We are not rationally justified in positing general facts.

(C3) clearly does not follow.

At this point, the factual atomist may wonder why the weaker (C1') should be substituted for (C1) instead of the stronger

(C1'') If we are rationally justified in positing general facts, then general facts must be causally operative.

Indeed, this is the sentiment George Molnar expresses in his article "Truthmakers for Negative Truths". Molnar offers a similar causal impotency argument against an ontology that posits absences as truthmakers for negative truths. Molnar's answer to the

ambiguity of ‘cause’ reply on behalf of absences is “that ‘cause’ is ambiguous, and that in the only ontologically relevant sense of ‘cause’ it means ‘causally operative’, and that we never say that absences are causally operative.”⁶¹ Those inclined to agree with Molnar will be unhappy exchanging (C1) for (C1’) rather than (C1’).

Let us, however, grant Armstrong the infelicitous exchange. How is it that general facts earn their title to causal relevancy? According to Armstrong, “[t]he relevance can be spelt out in terms of causal counterfactuals, Dowe counterfactuals in particular.”⁶² The leading idea is that if some general fact G_n had failed to exist, something would have had to be different causally. Armstrong uses the Russellian collector fact as an example:

Suppose...that the great world-embracing totality state of affairs that actually obtains had not obtained. The world would have been bigger or smaller. If smaller, then this would presumably have made a difference if only here and there, to the way the remainder of reality behaved. If larger, presumably that would have made a difference also.⁶³

This sort of causal relevance comes cheap, however. Consider the (putative) negative state of affairs of there being no unicorns. If this state of affairs did not obtain, then this would presumably have made a big difference if only here and there. The causal order would have been altered. It would seem that if this kind of causal relevancy were good enough to save general facts from the Eleatic Principle, so too would it suffice to rescue negative facts. Granted, Armstrong takes himself to have independent reasons for

⁶¹ George Molnar, “Truthmakers for Negative Truths,” *Australasian Journal of Philosophy* 78:1 (200): 72-86, pg. 79

⁶² Armstrong (2004) pg. 76.

⁶³ *Ibid*

rejecting negative facts, but so far as the Eleatic Principle is concerned, general facts and negative facts are on equal ontological footing.

Perhaps this is not so damning, for Armstrong does not rely on the Eleatic Principle to rid his ontology of negative facts. As I indicated above, his reason for denying these metaphysical bugbears is that his higher-order states of affairs render them obsolete. According to Armstrong,

[t]he existence of the positive first-order facts plus the existence of the general fact that collects them will entail the corresponding negative first-order facts. This entailment at least suggests that the first-order negatives are not needed in our ontology.⁶⁴

But, if one is moved by regress worries to reject the Russellian general fact, this sort of argument will not be very compelling

Let us put aside our problems with the above argument against negative facts for the moment. There seems something fishy about Armstrong's wielding the Eleatic Principle against such theoretical posits as possible worlds given that he is unwilling to levy it against general facts. For, recall that Armstrong claims that the Eleatic Principle gives us a good reason to reject any entity not credited with causal powers *in this world*. But, how are general facts causally relevant *in this world*? It seems that their only claim to relevance is that things *would have been* different had they not existed. Does this amount to their having causal powers in this world? This is not obvious.

It is not an available option for Armstrong to claim that general facts are causally relevant in virtue of their grounding or making true certain Dowe counterfactuals. For, Armstrong makes it clear that the truthmaking relation is not causal:

⁶⁴ Armstrong (2004) pg. 59.

To demand truthmakers for particular truths is to accept a *realist* theory for these truths. There is something that exists in reality, independent of the proposition in question, which makes the truth true. The 'making' here is, of course, not the causal sense of 'making'.⁶⁵

But, if truthmaking is not causal, then how can it be that general facts earn their Eleatic keep by making counterfactuals true? This is not clear. And yet this seems to be the sort of causal relevance Armstrong has in mind. He claims,

[t]he way the world actually is and the way it actually works...seems to serve to make such truths true, where they are true. And this, I suggest, constitutes the causal relevance of states of affairs of totality. Things would have been caused to be different if the state of totality had not obtained.⁶⁶

If causal relevance were so easy to attain, it would seem that brute counterfactual and negative facts would qualify. Presumably Armstrong doesn't accept such facts. It is beginning to seem like general facts are receiving preferential treatment on Armstrong's view.

3.13 The Argument from Queerness

To my mind, one of the most compelling negative arguments to be had for factual atomism derives from the observation that general facts are ontologically weird birds. Just how weird, we have already begun to see; unlike positive, first-order facts, they are not causally operative. Indeed, they do not even seem *relevant* to the causal order except

⁶⁵ Armstrong (2004) pg. 5.

⁶⁶ Armstrong (2004) pg. 77.

in the attenuated sense in which dubious metaphysical posits like negative facts and brute counterfactual facts are causally relevant.

Still, however, they are queer in a number of other ways. First, there would seem to be a necessary connection between the Russellian collector fact and the mereological sum of all the atomic facts. Since the latter is a constituent of the former, it appears as though a plausible principle about constitution,

(CP) If a is a constituent of S , then S exists only if a exists⁶⁷,

entails that whenever the collector exists, so too does the mereological fusion of the atomic facts. If this is the case, then there is a necessary connection between mereologically distinct existences. For those enamored of the Humean dictum, this will seem problematic.

But, since it is arguable that factualism entails necessary connections between distinct existences; this should not be a problem. For, if there are facts like [a 's being F], then there is a necessary connection between these facts and their constituents. So, the Humean claim falls by the wayside. Still, a factualist might want to hold a more relaxed, fact-friendly version of the Humean dictum,

(HF) There are no necessary connections between (mereologically distinct) facts.

⁶⁷ G. W. Fitch, "Singular Propositions in Time," *Philosophical Studies* 73 (1994): 181-184.

(HF) seems inconsistent with there being a Russellian collector fact. As we have earlier seen, a fact's constituents are non-mereological parts of it. So, the atomic facts that are constituents of the Russellian collector are not mereological parts of that totality fact. But, by (CP), whenever the collector exists, so too do its constituents. So, there is a necessary connection between mereologically distinct facts.

In light of our attempt at neutrality on the Humean issue, this is a rather weak objection to general facts, but it does contribute to the mounting case for their being strange entities. More evidence for their strangeness is found in Armstrong's admission that general facts are a species of negative fact. Armstrong says, "The *all* state of affairs is itself a 'no more' state of affairs".⁶⁸ Russell writes,

There is implanted in the human breast an almost unquenchable desire to find some way of avoiding the admission that negative facts are as ultimate as those that are positive.⁶⁹

He also says, in the lectures on *Logical Atomism*, that

[o]ne has a certain repugnance to negative facts, the same sort of feeling that makes you wish not to have a fact '*p* or *q*' going about the world. You have a feeling that there are only positive facts...⁷⁰

Insofar as they are a species of negative facts, then, general facts are ontologically queer, and to be resisted if at all possible.

⁶⁸ Armstrong (2004) PG. 58.

⁶⁹ Russell, Bertrand, *Logic and Knowledge*, ed. Robert Charles Marsh, London: Unwin Hyman 1989. pg. 287.

⁷⁰ Op. cit., pg. 211.

There is another reason to suspect Armstrongian general facts. On Armstrong's view, general, or totality, facts take the following form:

$$[\text{Tot}(\text{fusion}\{\alpha_1, \dots, \alpha_n\}, P^n)]$$

The α_i name particular things, while P^n names a universal. This fact, in conjunction with (CP) commits us to the existence of the mereological fusion of $\{\alpha_1, \dots, \alpha_n\}$. Call this object Z . What sort of a thing is Z ? Does it fall under any of our ordinary sortal concepts? Why suppose there are such things? Those enamored of the principle of unrestricted mereological composition will have no problem endorsing Z , but perhaps the rest of us will be reluctant. Given that we wish to remain neutral on these issues in this project, it seems that accepting the general fact whose existence entails the existence of Z is unpalatable.

Note that the highest-order fact G is not impugned by this objection, for the atomist accepts the mereological fusion of all the atomic facts. According to the atomist's view, this object does fall under an ordinary sortal; this object is the world.

Russell's view of general facts, while admittedly sketchy, does not appear to have this consequence. For, on Russell's view, the "convenient technical treatment" of general facts involves propositional functions, not mereological aggregates of first-order facts. Granted, there is scant evidence that Russell preferred one analysis of general facts over another, and explicit evidence in favor of the view that he did not, for he claims, "I do not

profess to know what the right analysis of general facts is,” but instead recommends it as a topic he “should very much like to see studied”.⁷¹

One reason, however, to be suspicious of Russell’s view on general facts is that it seems to leave a ‘back door’ open to disjunctive facts.⁷² As Russell observes,

I think I mentioned, when I was saying that I did not think there were disjunctive facts, that a certain difficulty does arise in regard to general facts. Take ‘All men are mortal’. That means:

“ ‘x is a man’ implies
‘x is mortal’ whatever
x may be.

You can see at once that it is a hypothetical proposition.⁷³

The upshot here is that if the relation between the propositional functions ‘x is a man’ and ‘x is mortal’ is hypothetical, i.e. formulated in terms of a sentence involving a material conditional, then there will be, in some sense, facts that have a disjunctive logical structure. For,

(CON) if ‘x is a man’ is true, then ‘x is mortal’ is true,

is logically equivalent to

(DIS) either ‘x is a man’ is false or ‘x is mortal’ is true.

⁷¹ Russell (1989) pg. 237.

⁷² I am indebted to Tom Ryckman for this observation.

⁷³ *Ibid.*

So, there would appear to be facts that have an internal disjunctive structure. This is rather odd, for, as Russell earlier claims, one doesn't want facts like ' p or q ' bumping about.

Perhaps these oddities are not so bad that we should reject general facts. They do, however, seem to undermine arguments that employ a premise involving ontological economy or simplicity and elegance in favor of general facts. This having been said, though, it is still open to the fan of general facts to claim that they are the least weird of the entities capable of doing the job of making general claims true. In what follows, I hope to cast doubt on this claim.

3.14 The Argument from Analysis

This argument purports to show that a successful analysis of general facts is not forthcoming, and so general facts as a viable metaphysical research option should be abandoned. In schematic form, the argument is as follows.

- (A1) If general facts exist, then they are complex entities.
- (A2) If general facts are complex entities, then any theory that posits them should offer an acceptable analysis of them.
- (A3) No acceptable analysis of general facts has been offered.
- (A4) If (A1)-(A3), then general facts should be rejected.
- (A5) General facts should be rejected.

A suppressed conjunct of (A3) is ...and no acceptable analysis seems likely. The leading idea behind this argument is that no metaphysical theory should posit purportedly

complex entities without at least providing a coherent account of what the constituents of those entities are and how they are related.

Of course, Armstrong would no doubt reject (A3), putting forward his own analysis as an acceptable one. As I have endeavored to show, however, his analysis is not acceptable. First, it entails that the Russellian collector fact is not a fact. Second, it commits us to the existence of mereological fusions. I take these two consequences of Armstrong's analysis as sufficient grounds for rejecting it.

A better line of resistance to the above argument is one that suggests that general facts can be metaphysical placeholders, despite the lack of an acceptable analysis of their structure. This seems fair, but the truthmaker theorist would be hard pressed to take this line, for she must say something about *how* general facts can be truthmakers for general truths. Presumably, their structure has something to do with their ability to stand in the truthmaking relation to general propositions. It is in virtue of the structure of atomic facts that they are capable of making atomic propositions true. It is highly unsatisfying to be told that there is some entity *E* that stands in the truthmaking relation to a proposition *p* without being told just how *E* is supposed to make *p* true. It doesn't seem to help if the truthmaker theorist informs us that general facts make general propositions true by 'putting a closure on' or 'setting a limit to' the facts of a certain sort that there are. For this amounts to being told that general facts can do the job because they are general facts. Nothing has been explained.

Perhaps this argument is dialectically weak. Nevertheless, it points to the failure on behalf of metaphysicians to successfully live up to Russell's call for an analysis of the

structure of general facts. This failure might lead us to regard positing general facts as a dead ended metaphysical research program.

We shall now turn to some arguments that purport to show that general facts are an ontological extravagance. These arguments are designed to undermine the felt need for general facts stemming from the Russellian intuition that there must be an all-embracing collector fact.

3.2 Arguments against the Need for General Facts

A colorful example: imagine a Leibnizian God surveying the totality of logically possible worlds, deliberating about which to actualize. He chooses our world from among those possible. What must such a God do in order to make this world actual? It would seem that all He need do is create each atomic fact f_i in F , and each second-order atomic fact (if there are such things), and then *stop*. He needn't create, in addition, an all-inclusive higher-order fact that these particular facts are all the particular facts there are. If this state of affairs obtains, it obtains in virtue of God's having stopped when He did, not in virtue of His having *made* something mereologically distinct from any of the lower-order facts.⁷⁴

Armstrong makes this very point concerning negative facts: "if God decrees a certain body of first-order positive states of affairs [F] and then decrees that these are enough, there seems no need for him to establish first-order negative properties or states

⁷⁴ Ross Cameron makes this point in his paper "Truthmaker Necessitarianism and Maximalism" forthcoming in *Logique et Analyse*.

of affairs *in addition*.”⁷⁵ Armstrong, however, does not draw from this thought experiment the conclusion we have drawn, namely that the collector fact is not needed.

We now shall consider attempts to show that this is the appropriate conclusion to draw. In this section we shall examine positions that, like Bricker’s, relegate failure of entailment of the general by the particular to the status of the ontologically insignificant. I do not take any one of these arguments alone as decisively refuting general facts. Rather, taken together they are, when considered alongside the above, more negative arguments, enough to tip the balance against an ontology of general facts.

3.21 The Argument by Analogy with Modal Facts

This argument’s main target is Armstrong. In his chapter on truthmakers for truths of mere possibility, he suggests a deflationary account of these truths. In attempting to demonstrate that more ambitious truthmakers like Lewis’s pluriverse or uncountable multitudes of propositions are not needed, Armstrong says

[t]here is a still simpler argument that seems to have weight. We can first give a nominal definition of ‘contingent being’: an entity *C* is a contingent being if and only if ‘*C* exists’ is a contingent truth. The predicate ‘might not have existed’ is true of such a *C*. Consider now the totality of contingent beings. If any of these beings were not to exist, and/or any further contingent beings were to exist, then the ‘mere possibilities’ would have to vary with these differences. That is to say, the mere possibilities supervene upon the actual contingent beings. Any difference in the realm of the contingent would involve a difference in the mere possibilities. This consideration, of course, does not show us in any detail what are the truthmakers for truths of mere possibility...But it casts some further cold water on the need for the wildly ambitious truthmakers that have been proposed by a number of contemporary metaphysicians.⁷⁶

⁷⁵ Armstrong (2004), pg. 59.

⁷⁶ Armstrong (2004) pg. 85.

It seems, at first blush, that a parallel argument can be constructed that would cast some cold water on the need for the ambitious truthmakers that have been proposed for general truths, i.e., general facts. How would such an argument go?

Consider the totality of contingent atomic facts. If any of these facts were not to exist, and/or any further contingent atomic facts were to exist, then the truths of generality would have to vary with these differences. The truths of generality supervene on the actual atomic facts. Now, of course, as Bricker is quick to note, this supervenience does not *all by itself* rule out general facts. Nor, it might seem, does the supervenience show us in any detail what are the truthmakers for general truths. But, it would seem that if the supervenience of the truths of mere possibility on the actually existing contingent beings casts cold water on the need for *possibilia*, why shouldn't the supervenience of the general on the particular likewise inundate the need for general facts?

3.22 The Argument from Non-necessitating Truthmakers

Armstrong holds that truthmakers necessitate the truths they make true. He offers only one argument in favor of this view (Truthmaker Necessitarianism). We have already examined this argument and found it lacking. His argument is as follows:

But what is the argument for saying that a truthmaker must necessitate a truth it is truthmaker for? Here is an argument by *reductio*. Suppose that a suggested truthmaker T for a certain truth *p* fails to necessitate that truth. Then there will be at least the possibility that T should exist and yet the proposition *p* not be true. This strongly suggests that there ought to be some further condition that must be satisfied in order for *p* to be true. This condition must either be the existence of a further entity, U, or a further truth *q*. In the first of these cases, T + U would appear to be the true and necessitating truthmaker for *p*. (If U does not necessitate, then the same question raised about T can be raised again about U. In the second case, *q* either has a truthmaker, V, or it does not.

Given that q has a truthmaker, then there are truths without truthmakers. The truth q will 'hang' ontologically...⁷⁷

This argument is complicated. We shall move through it carefully.

I shall formulate the argument in terms of possible worlds.⁷⁸ Armstrong invites us to consider some (arbitrarily chosen) proposition p true at the actual world (w_a) and its (purported) non-necessitating truthmaker, T . Since T does not necessitate, there must be a world at which T exists, and p is false. Let w_1 be such a world. According to Armstrong, this strongly suggests that some further condition must be added to T at w_a in order to secure the real, necessitating truthmaker for p . For, how can T be that which really makes p true at w_a if T could exist at w_1 without being p 's truthmaker? This looks, *prima facie*, quite odd. In order to obtain the real truthmaker, we must add either another truth, q or another entity, U . If $T + U$ necessitates, then we have our necessitating truthmaker, if not, then the same problem can be raised with respect to the amended truthmaker $T + U$ that we raised about the original suggestion, T .

If, however, we must add another truth q , then either q has a truthmaker or it doesn't. If it does, then we just get the $T + U$ case all over again. For, if $T + q$ necessitates the truth of p , then $T + q$'s truthmaker necessitates the truth of p .

Suppose, however, that q lacks a truthmaker. Then there are truths without truthmakers. This, according to Armstrong, is theoretically unsatisfying. Upon inspection, Armstrong's argument reveals itself to be question begging. Consider its first lemma. From the failure of T to necessitate p it follows that there is a world at which T

⁷⁷ Armstrong (2004) pg. 7.

⁷⁸ While this formulation would be inimical to a one-worlder like Armstrong, it is harmless for present purposes.

exists and p is not true. Armstrong takes this possibility as evidence that T was not really a truthmaker for p in the first place. But, why should we go along with him here? It seems that the possibility of T's existing while p is not true only suggests to us that a more robust truthmaker is required if we already buy into Necessitarianism.

Suppose r is some proposition true at the actual world. If—as Armstrong supposes in the above argument—every truth has a truthmaker, then r has a truthmaker. It is hard to deny that W , the totality of being at w_a , is a truthmaker for r .⁷⁹ Now suppose that there is a possible world, w_2 , at which W exists but is not the totality of being (i.e., w_a is a proper part of w_2). If Necessitarianism were true and every truth had a truthmaker, then it would be impossible for any world to contain W as a proper part and fail to make r true. For, suppose W fails to necessitate r . Since W is the totality of being at w_a , there is nothing further to add to W in order to secure a necessitating truthmaker. So, if truthmakers necessitate, then this scenario must be impossible. But, what reason other than a prejudice in favor of Necessitarianism could one give for claiming that this scenario is impossible? No such reason immediately presents itself.

But now a line of resistance to Armstrong's argument for general facts is available. For, lacking any compelling, non-question begging argument in favor of Truthmaker Necessitarianism, we have no reason to believe that truthmakers must necessitate. But, if this is the case, then we have no reason for thinking that, in addition to the atomic facts, there must be a further, Russellian collector fact in order to secure a necessitating truthmaker for <and there are no more atomic facts>. For, this proposition could have a non-necessitating truthmaker.

⁷⁹ Granted, W is not the most *discriminating* truthmaker for r , as it makes every proposition true at w_a true.

It might be objected that it isn't clear what one could mean by 'non-necessitating truthmaker'. Truthmakers necessitate, period. This sort of objection, while seemingly dogmatic, is perhaps what Armstrong had in mind all along. The very idea of a non-necessitating truthmaker is absurd. But, if this is the case, then oughtn't a contradiction to follow from supposing there are non-necessitating truthmakers? Armstrong purports to give an argument by *reductio*, but he doesn't seem to succeed in reducing the denial of Necessitarianism to an absurdity, a formal contradiction. For, in order to do this, it would appear as though he would require Necessitarianism, or something logically equivalent to it, as a premise.

Armstrong's version of the Russellian non-entailment argument for general facts stands or falls with Necessitarianism. But, we have seen that we shouldn't be moved by Armstrong's proof of this doctrine. So, Armstrong gives us no reason to accept general facts.

Still, however, there seems something inimical to truthmaking theory about rejecting Necessitarianism. One is left wondering just how some entity *T* can be a truthmaker for *p* if it fails to necessitate. How can one get away with claiming that *p* holds *in virtue of* *T* if *T* could exist and *p* not be true? This seems odd. As Armstrong remarks, "[t]ruthmakers that fail to necessitate, it seems to me, leave something out".⁸⁰ It might seem that anything short of absolute necessitation could not be a candidate for the relation of *ontological determination*, that *in virtue of which* some proposition holds.

I take it that Armstrong tacitly appeals to this very powerful intuition in his *reductio* argument. While I am not inclined to agree that truthmakers must necessitate,

⁸⁰ Armstrong (2004), pg. 57.

the Necessitarian does seem better placed to meet the question, “how is it that your proposed truthmakers *ontologically determine* their truths?” The Necessitarian can reply, “by necessitating them”. It would seem that truths could not hope for firmer ontological grounding than necessitation. It is important to note that this relation of necessitation cannot be understood as a logical relation. As Armstrong points out, “necessitation cannot be any form of entailment”.⁸¹ For, both terms in an entailment relation are propositions, and, according to the truthmaking theory Armstrong puts forth, truthmakers are facts, or states of affairs. The truthmaking relation is, then, cross-categorical.

I suggest that the Armstrong-style truthmaker theorist merely stipulate Necessitarianism. Truthmakers must necessitate, period. Any positive argument for this claim would seem to reduce to the question-begging sort of argument Armstrong gives. But, this is no reason to reject Necessitarianism; the truthmaker theorist can merely lay it down as part of his theory that truthmakers must make their truths true by necessity. If the truthmaker theorist takes this suggestion, then it seems that the atomist cannot accept the Truthmaker Principle (what Armstrong calls Maximalism):

Truthmaker Principle: Every truth has a truthmaker,

without thereby accepting an ontology of general facts.

But, this truthmaking principle is only appealing if one takes Armstrong’s hard-line approach to truthmaking. So long as one is comfortable with the view that

⁸¹ Armstrong (2004), pg. 5.

truthmakers can be non-necessitating, one will not find Armstrong's argument for general facts convincing.

3.3 The World as Modally Inductile⁸²

The proponent of the Non-Entailment argument invites the inference that, since atomic propositions do not suffice to entail general ones, general facts are needed. In Armstrong's terminology, since the atomic facts do not necessitate general truths, higher-order or totality states of affairs are required as truthmakers. The leading idea behind this move is that the totality of atomic facts—which the atomist claims exhausts the world—might have existed as a proper part of a still larger totality, i.e., the world might have been bigger than it is. Call a world that contains the atomic facts as a proper part an *expansion*. One strategy, then, in resisting the Russell-Armstrong argument is to hold that there are no expansions. The totality of atomic facts, and therefore the world, is *modally inductile*. It could not have appeared as a part of another world. In this section, we shall canvass several possible motivations for this view.

3.31 Class Nominalism

As Armstrong characterizes class nominalism, it is “the view that for a thing to be of a certain type is nothing more than for it to be a member of a certain class”.⁸³ Take the

⁸² I borrow the term ‘modally inductile’ from Peter Van Inwagen. See his *Material Beings* (Ithica: Cornell University Press, 1990). The sense of the term is somewhat different in my use.

(natural) property *being an electron*. According to class nominalism, for *a* to have this property is for it to be a member of a class, the class of electrons. The so-called ‘property’ is nothing more than membership in this class.

It has been argued against class nominalism that it cannot account for the intuitively plausible claim that the property *being an electron* might have had different instantiations. One version of the argument is rather similar to Armstrong’s argument for general facts. In a chapter on class nominalism, he attributes a version of this argument to Nicholas Wolterstorff.⁸⁴ Again, we take as our example the property *being an electron*. On the class nominalist’s view,

to be an electron, say, is to be a member of the class of electrons. These electrons are contingent beings. That is to say, some or all of them might not have existed. Other electrons besides the ones that exist might have existed. In that case... we would have been dealing with a different class. But given a class analysis of what it is to be an electron, a change in the membership of the class entails that the type *being an electron* would have been different. This is a clear consequence of the class analysis. But is it an acceptable consequence? It seems not.⁸⁵

Note the similarity in the structure of this argument against class nominalism with that of the Non-Entailment argument. The class of electrons might have been bigger (or have had different members), but the property *being an electron*, presumably, would not change. So, having a property cannot be reduced to class membership. Given the Axiom of Extensionality, the sole identity criterion for classes is membership. So, classes are, in our sense, modally inductile: it is impossible for some class, say the class of electrons, to exist and yet have different members.

⁸³ D. M. Armstrong, *Universals: An Opinionated Introduction* (Boulder: Westview Press, 1989) pg. 8.

⁸⁴ Nicholas Wolterstorff, *On Universals* (Chicago: University of Chicago Press, 1970).

⁸⁵ Armstrong (1989), pg. 27.

So, one consequence of the class nominalist's view, as Armstrong and Wolterstorff rightly point out, is that for any property, it has the instantiations it has of necessity. If one is comfortable maintaining class nominalism in the face of this result, then one has a reason to reject the Armstrong's claim that the totality of atomic facts might have been a proper part of a larger totality.

This line of resistance can be articulated as follows. Suppose class nominalism about properties. Now suppose, for *reductio* that it is possible that the atomic facts existed but did not exhaust the atomic facts. So, the class of actual atomic facts, $\{f_1, \dots, f_n\}$ at the actual world w_a , could have been a proper subclass of a larger class, $\{f_1, \dots, f_n, \dots, f_{n+m}\}$, at some possible world w_f . Consider the this-worldly property *being an atomic fact*. Call this property P_{w_a} . If there is such a property, then an atomic fact's having it is just its being a member of $\{f_1, \dots, f_n\}$.⁸⁶ Now, consider the other-worldly property *being an atomic fact*. Call this property P_{w_f} . For an atomic fact to have P_{w_f} is just for that fact to be a member of $\{f_1, \dots, f_n, \dots, f_{n+m}\}$. No atomic fact that exists at w_a has P_{w_f} . For, an atomic fact has that property only if $\{f_1, \dots, f_n, \dots, f_{n+m}\}$ exists. But this class does not exist at w_a , as one of its members, f_{n+m} , does not exist at w_a . So, take some atomic fact, f_1 . It seems that, at this world, f_1 lacks the property P_{w_f} . But, at w_f , f_1 has this property. So, f_1 at w_a cannot be identical to f_1 at w_f . But, if this is the case, then the class $\{f_1, \dots, f_n\}$ that totals the property P_{w_a} cannot be identical to the class $\{f_1, \dots, f_n\}$ that, at w_f , is a proper subclass of $\{f_1, \dots, f_n, \dots, f_{n+m}\}$. But, this is just what we assumed to be the case for our *reductio*. So, it follows that, on class nominalism, the class of actual atomic facts is world-bound, it is modally inductile.

⁸⁶ Armstrong countenances such a property as *being a state of affairs* (Armstrong (2004) pg. 74), why not *being an atomic state of affairs*?

Of course, provided there are good reasons for rejecting class nominalism, this argument will be unconvincing. I merely consider the view as an alternative to Armstrong's ontology of general facts. I have argued that the factualist who is also a class nominalist can resist general facts by appealing to a change in extension of the second-order property *being an atomic fact*. This strategy, of course, requires countenancing higher-order facts. But, for the class nominalist, higher-order facts of this sort are ontologically innocent. For whether a fact has the higher-order property, *being an atomic fact* is merely a matter of its being a member of the class of atomic facts.

Perhaps nominalism is too untenable to provide a reasonable alternative to general facts. Armstrong levels some very serious objections to class nominalism.⁸⁷ Insofar as we are moved by these criticisms, we shall have to look elsewhere to motivate modal inductility.

3.32 The Thesis of Factual Density

I have recently considered the view that the Universe is a factual plenum. The space-time world is 'factually full' in such a way that no further facts could be added without changing some state of affairs that actually obtains. To consider a colorful example, the space-time manifold is like a bag filled with ceramic tiles. Adding any further tiles would cause the rest to shift about, changing their relations to one another. I shall call this the thesis of 'factual density'.

⁸⁷ Armstrong (1989) especially, ch. 2.

Simile is not proof, however. Such a view, of course, while it would be incompatible with the Armstrongian point, needs motivation. Such motivation, however, seems difficult to come by. If we accept some very stringent identity criteria for properties, tying them essentially to their instantiations, then it might seem as though factual density holds. For, as we saw above, the nominalist holds that properties are individuated in terms of their instantiations alone, and it appears that on this view, the world is modally inductile.

There is, however, a looming worry for factual density. Suppose that one rejects, as a genuine property, *being an atomic fact*. This is a merely supervenient property and, as Armstrong would have it, is no ‘addition of being’.⁸⁸ What reason, then, could we give in favor of the view that there couldn’t, strictly speaking, have been more atomic facts?

It seems like the real problem cases are not worlds in which some actual particulars have actual properties they lack at this world. For, we can claim class nominalism and deny that the facts at these possible worlds are strictly identical to the facts at the actual world. Also, it seems as though cases where alien particulars instantiate alien properties are no problem either, for the class nominalist can claim that the addition of new particulars requires that the old particulars be related to these new ones in some way, thus changing the extensions of the actual predicates.

The real problem cases for density are possible worlds in which actual particulars instantiate properties that are alien to the actual world. This possibility, and possibility indeed it seems, does not require a change in the extensions of any predicate that picks

⁸⁸ See his (1997) section 2.12 on the so-called doctrine of the “ontological free lunch”.

out a property at the actual world. So, it seems all the properties can remain the same; we have merely added a new, alien, extrinsic property. So, it might appear that the thesis of factual density is false.

Neither class nominalism nor factual density seem sufficient to motivate modal inductility. The former because it involves somewhat controversial theoretical assumptions, the latter because it seems inconsistent with what we take to be genuine possibilities. In what follows, I shall consider a different, and arguably more plausible, approach to establishing modal inductility, that of denying transworld identity.

3.33 Transworld Identity and Factual Identity

Facts are individuated, in part, in terms of their constituents. It seems a natural constraint upon identity for facts that they at least have the same constituents. So, something like the following necessary condition seems to hold.

Principle of Identity for Facts (PIF): f_1 is identical to f_2 only if f_1 's constituents are identical to f_2 's constituents.

Of course (PIF) does not state a *sufficient* condition for factual identity. Asymmetric relations provide a counterexample. Consider the asymmetric relation *loves*. If identity of constituents sufficed for identity of facts, then there could be no such thing as unrequited love (a wonderful prospect, but a metaphysically undesirable result). For, whenever John stands in this relation to Mary, there is a fact, [*loves*², john, mary]. If identity of constituents sufficed for identity of facts, then it would appear that the

following fact would necessarily exist, [*loves*², mary, john]. Since these are, however, different facts, identity of constituents does not suffice for factual identity.

Given (PIF) together with a denial of transworld identity for individuals, Armstrong's point about the possibility of expansion doesn't hold. For, since no two worlds have the same individuals, no two worlds have the same facts. Provided particular individuals are constituents of facts, which we have been assuming all along, it follows that no two worlds can contain the same facts about particular individuals. Different constituents means different facts. Victory is had by the atomist; she can deny Armstrong's main premise.

Perhaps, though, a counterpart theoretic version of the Armstrong point can be formulated. Since counterpart facts of each member of $\{f_1, \dots, f_n\}$ might have existed and yet not totaled the atomic facts, some general fact is required. There is, however, a reply in the offing.

David Lewis's view denies transworld identity. Furthermore, he has a tidy explanation of negative existentials. Consider the negative truth that there are no unicorns. On Lewis's view, there are worlds in which this negative claim is false. At these worlds there are truthmakers for the proposition expressed by

- (1) There exists a unicorn.

According to Lewis,

Those otherworldly unicorns are the one-way difference makers between worlds like ours where the negative existential proposition that there are no unicorns is true and other worlds in which it is

false; and in worlds where the negative existential proposition is false, they are the truthmakers for its true negation.
 What more do we need?⁸⁹

It seems that the above Lewisian line can be applied with equal force to the truth

(2) $\{f_1, \dots, f_n\}$ are all the atomic facts there are.

For, take worlds where there are more facts. Of course, given (PIF), this means that there are worlds that contain facts a lot like $\{f_1, \dots, f_n\}$, but whose constituents are counterparts of the constituents of these facts. These ‘expansions’ contain extra facts. These extra facts are the one way difference makers between our world and bigger worlds. What more do we need to ground the truth of (2)?

Indeed, Armstrong admits this much. He claims that, with respect to providing a truthmaker for (1),

perhaps *he* [Lewis] does not need more. But this is because he has a metaphysics of really existing possible worlds, and, furthermore, he makes these worlds all ontologically equal with each other. ‘From its own point of view’ each world exists, and the others are merely possible. Our world is no exception in Lewis’s theory. It is not metaphysically privileged in this respect. Combine this with the observation that every positive and contingent existential proposition is true at some world, and so has truthmakers in the worlds in which it is true. The falsity of some particular positive existential proposition in *our* world, the non-existence of unicorns as it might be, is a local failing only. It is at least tempting, then, to economize on truthmakers at this point, and make do with an absence of falsemakers on the local scene. The falsemakers will not be absent in other worlds.⁹⁰

So, Armstrong concedes that, given Lewis’s modal realism, there is no need to posit a general fact in order to accommodate negative existentials like (1). It seems equally clear

⁸⁹ David Lewis, “Truth-making and difference-making,” *Nous* 35 (2001) 602-615, pg. 610.

⁹⁰ Armstrong (2004), pg. 69.

that there is no need, on Lewis's view, to posit a general fact to accommodate the truth of (2). So, given a denial of transworld identity and an ontology of possible worlds, we have made our case against general facts.

There is, however, a serious problem with this approach. It would seem that in order to appeal to a denial of transworld identity, one would have to have the worlds "in all their glory", as Lewis puts it. One would require an ontology of possible worlds. To accept *possibilia* in order to avoid positing general facts is ontologically extravagant. We have already put aside Bricker's view for just this reason. So, it might seem, an appeal to transworld diversity is unacceptable.

The appeal to possible worlds is unacceptable, that is, unless a view on which possible worlds are non-Lewisian can be constructed. If a so-called 'ersatz' possible worlds are robust enough to generate a treatment of negative existentials like the one Lewis gives in the above passage, then we shall have vitiated the need for general facts while maintaining ontological economy. This strategy, then, seems to be the atomist's best chance for success. It is to sketching such a view that I shall now turn.

3.331 Linguistic Ersatzism, Transworld Diversity, and General Facts

If linguistic ersatzism can be made to work, then it appears as though the atomist can take advantage of Lewis's insight regarding negative existentials. Lewis claims that the ersatzist program is hopeless.⁹¹ In his expose of modal realism, Lewis inveighs against the would-be ersatzter, claiming that abstract representations of worlds are not

⁹¹ See chapter three of his (1986) *On the Plurality of Worlds*, Oxford: Basil Blackwell.

robust enough to capture all the possibilities there are. We shall not concern ourselves too much with whether or not the ersatzist program is adequate to explain modality. For, what interests us in this project is whether linguistic ersatzism about possible worlds provides a way to do without general facts. I shall argue that it does. If I am successful, then the conclusion to draw will be a hypothetical one, ‘*IF* ersatzism is an adequate theory of possible worlds, then general facts are not needed’. Defending ersatzism is then the task of the factual atomist, but it is a task beyond the scope of the present endeavor.

In his paper “Property Counterparts in Ersatz Worlds,” Mark Heller adumbrates a version of linguistic ersatzism which he takes to be immune to Lewis’s criticisms of the ersatzists’ endeavor. Heller’s defense of the view amounts to his clearing it of two charges made by Lewis, (i) that ersatz possible worlds cannot be used to give a non-circular analysis or explanation of modality, and (ii) that there are possibilities the ersatzist conflates.⁹² I do not think that ersatzers should feel threatened by (i), for they are free to hold that there are some primitive modal concepts.⁹³ We shall not examine Heller’s reply to (ii) in depth, rather, we shall suppose, for the moment, that he is successful in answering Lewis’s worry.

3.3311 Paradise on the Cheap?

⁹² Mark Heller, “Property Counterparts in Ersatz Worlds,” *The Journal of Philosophy* 95 (1998): 293-316, pp. 296-7. For more on Heller’s linguistic ersatzism, see also his “Five Layers of Interpretation for Possible Worlds,” *Philosophical Studies*, 90:2 (1998): 205-214.

⁹³ See Fitch, G. W (1996). “In Defense of Aristotelian Actualism”, *Nous*, Vol. 30, pp. 53-71. This view about modality has been referred to as ‘modal primitivism’.

We shall now attempt to answer the question whether ersatz possible worlds like those suggested by Heller can do away with general facts. The line of resistance to general facts is something like the following. Consider the true proposition expressed by (2). What makes this proposition true? On the Lewisian view, it is the lack of falsemakers 'on the local scene' for the negative existential

(3) There is no fact distinct from each of $\{f_1, \dots, f_n\}$.

This lack is sufficient to make (3) true, Armstrong concedes, for the falsemakers exist in other worlds. On the ersatzist view, (3) is true in virtue of its having no falsemakers. But, unlike Lewis, the ersatzer claims that there are *representations* of falsemakers. Some ersatz possible world counts as representing that there are further facts. Is this representation enough?

Perhaps not. Armstrong only concedes the issue over negative existentials to Lewis because Lewis has real, concrete objects to serve as falsemakers in other worlds. The ersatzer only has linguistic representations of concrete objects, in this case, otherworldly atomic facts, to act as falsemakers in other ersatz worlds. These representations, one might argue on Armstrong's behalf, are not robust enough to compensate for the local lack of falsemakers for (3).

This objection does not seem to go through. If, as we are assuming, Heller's linguistic ersatzism is adequate to answer (ii), then there does not seem to be any reason to deny that it can compensate for the actual world's mere local failing to provide

falsemakers for (3). We can use ersatz representations of atomic facts as the supervenience base for general propositions.

3.3312 Transworld Diversity

The Heller-style ersatzer also denies transworld identity in favor of a counterpart theoretic modal semantics. On Heller's view, not only are actual individuals distinct from other-worldly individuals, but also actual *properties* are distinct from other-worldly properties. More carefully, on the ersatzist view, "no property is represented by more than one world."⁹⁴ But, this does not mean that we need to hold each property's instantiations are essential to it. For, as Heller observes,

we do not have to say that all of a property's properties are essential to it. Positive charge could have existed even if had never written about it, if and only if positive charge has a counterpart that exists in a (close enough) world in which I (or rather my counterpart) do not write about it.⁹⁵

Whether an ersatz world counts as representing an actual-world property as being instantiated is determined by whether the represented property stands in the appropriate contextually salient counterpart relation to the actual property.

So, since no property is represented by more than one world, no atomic fact is represented by more than one world. For, the following principle seems to hold on Heller's view,

⁹⁴ Heller (1998), pg. 300.

⁹⁵ Heller (1998), pg. 301.

Principle of Representation (PR): ersatz world w represents fact f_1 only if w represents each of f_1 's constituents.

So, no worlds represent numerically the same facts, since, *ex hypothesi*, no two worlds represent the same properties and individuals.

It would appear as though, for the ersatz, the world is modally inductile in just the way we need for it to be in order to escape Armstrong's point about possible extension. There is, however, a looming worry. The Armstrongian point could be put counterpart theoretically. Some ersatz world could *count as* representing all the atomic facts that exist at the actual world plus some more. So, it would seem, the existence of the atomic facts alone does not suffice for the truth that they are all. A general fact is needed even on the ersatz's transworld diversity view.

When we formulate the Armstrongian argument in the counterpart theoretic language of ersatzism, we see where it goes wrong. There is an ersatz world that counts as representing all the atomic facts that the actualized ersatz world represents in addition to representing more atomic facts. So, the actualized ersatz world must represent that there are no more facts. The conclusion does not go through.

The general states of affairs supervene on atomic ones. More carefully, which general states of affairs an ersatz world represents as obtaining supervene on which atomic facts an ersatz world represents as existing. So, representations of Russellian collector facts are not required in order to account for the truth of general propositions. But, then it follows that the ersatz world that represents the actual world needn't contain a representation of a Russellian collector. Since the only facts that exist are those that this

ersatz world represents, there is no Russellian collector. So, given linguistic ersatzism, we ought to conclude that a genuine, actualized Russellian collector fact is not required.

3.4 Concluding Remarks: Whither Truthmakers?

It seems that the atomist who takes the route I suggest must endorse the view that an absence of atomic facts suffices to make at least one proposition true. Isn't this tantamount to abandoning the truthmaker project? Yes and no. As I remarked above, on this view absences are not ontologically significant. The ersatz world that represents the actual world represents only positive atomic facts. Other ersatz worlds represent other positive atomic facts. The negative states of affairs that obtain according to an ersatz world supervene on the positive atomic facts that world represents as existing. There is no need, on this view, to posit genuine ontological absences. Lacks are not part of the represented fabric of ersatz worlds, nor are they part of the fabric of the world correctly represented by the actualized ersatz world.

If what I've said above is right, the atomist can have her cake and eat it too. General truth is the ontological free desert to an ontological free lunch. Of course, there shall only be such thing as a free lunch provided the atomist can defend ersatzism. This rather extensive project I shall leave to others.

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