All Structure Is Logical Structure

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Abstract

This paper provides a defense of *state-based metaphysics*: it argues that there are such things as states of affairs (including ones that fail to obtain), answers historically influential objections (with special focus on David Lewis's discussion of *magical ersatzism*), and outlines an ontology in which everything structured is *logically* structured, i.e., structured in the manner of a logically complex property or state of affairs. In support of the thesis that there are such things as states of affairs, it is argued that these are needed not only (i) to distinguish sense from nonsense, (ii) to distinguish properties from relations, and (iii) to individuate complex properties and relations, but also (iv) as the subject matter of logical principles and (v) as bearers of modal status. Lewis's discussion of magical ersatzism is criticized primarily for neglecting the theoretical possibility of identifying events with obtaining states of affairs—an identification that is here defended, in part, by drawing a distinction between essence 'according to being' and essence 'according to speech'.

Keywords: states of affairs; structure; essence; events; David Lewis

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> Oh Reason! who shall say what spells renew,
> When least we look for it, thy broken clew!
>
> – Thomas Moore, *Lalla Rookh*

1 Introduction

In the Preface to his *Combinatorial Theory of Possibility*, David Armstrong credits David Lewis for helping him realize "that constituent universals are not mereological parts of the complex universals of which they are constituents" (p. xi). He further notes that Lewis does not believe in states of affairs (as conceived by Armstrong). In his review of Armstrong's book, Lewis elaborates on his reasons for this:

> To me, it is mysterious how a state of affairs is made out of its particular and universal constituents. We may not think of it as the composition of a whole out of its parts: first, because different states of affairs may have the very same constituents; and second, because the existence of the constituents by no means entails the existence of the state of affairs. It is some sort of unmereological composition, and to my mind, that is a contradiction in terms. (1992: 200)

Might Armstrong have evaded Lewis's criticism if he had simply refrained from using mereological-sounding vocabulary ('constituent', 'composition', 'part') in formulating his theory? I find it hard to see why not. At the same time, it can seem irresistible to describe a state of affairs such as Sydney's being south of Brisbane as 'complex' and 'structured' and as having certain other things as 'constituents'—and what are those 'constituents' if not *parts*?

In response to this objection, it might be best simply to insist that constituents are *not* always parts, and that being complex or structured does not imply having proper parts.[1] Thus consider *being triangular*. Surely this property is not *simple*, at least not in the sense of being unanalyzable; but if being complex implied having proper parts, then that would mean that *being triangular* has proper parts. And, well, what are they? While some philosophers will be ready with an answer, to many the suggestion that triangularity *literally* has proper parts may seem to border on absurdity.

In mentioning triangularity and denying that it is unanalyzable, I have just now hinted at an example of *logical structure*—'logical' because the analysis proceeds via logical operations such as conjunction and negation. According to one of the claims to be defended in this paper, no other kind of structure is 'ontologically relevant'. This obviously stands in need of clarification, which will be provided in due course. My more modest *main* goal, which will take up most of the paper, is to defend the much more basic claim that there are such things as states of affairs (henceforth also simply 'states'). Here the phrase 'state of affairs' is intended not in the Armstrongian sense, but rather in a sense that is in contemporary metaphysics perhaps most closely

[1] Cf. Bynoe (2011). Lewis was of course well aware of this option—hence his arguments against "magical ersatzism" and the "magical conception of structural universals" in his (1986a,c).

associated with the *Tractatus*.[2] The important difference is that states, understood in this latter sense, can exist and yet fail to *obtain*: the state that p, if it exists, obtains iff it is the case that p. Authors who have distinguished obtainment from existence include Chisholm (1970, 1976), Plantinga (1970, 1974), van Inwagen (1978, 1996), and Barcan Marcus (1981, 1990). Within this tradition, obtaining states are commonly referred to as *facts*. I shall follow suit.[3]

The paper falls into three main parts. In Section 2, it will be argued that states of affairs help satisfy various theoretical needs, which gives us excellent reason to believe in their existence.[4] Section 3 addresses some influential objections that have been raised against the existence of states. Here I will focus for the most part on Lewis's (1986c: ch. 3) argument against "magical ersatzism", although Russell and Quine will also be discussed. Finally, Section 4 contains a "credo and catechism" of what I propose to call *state-based metaphysics*. Of this section it will be helpful to give a more detailed preview.

The *credo* consists of five theses, the first four of which will be defended in Sections 2 and 3. They are as follows: (i) there are such things as states of affairs, including ones that fail to obtain; (ii) properties and relations are abundant enough to include all the sets (conceived of as properties); (iii) each event is a fact; (iv) there is no non-disjunctive 'transcendental' parthood relation;[5] and (v) all ontologically relevant structure is logical structure. This last thesis may be considered a corollary of Frederic Fitch's (1971) radical proposal (which in turn harks back to Whitehead) that "all entities are reducible ultimately to propositions".

The *catechism* is intended to clarify this thesis and to make it plausible. This will be done in part by indicating how it is suggested by the first four, but mainly by outlining a somewhat panoramic picture of a metaphysic in which the thesis holds true. To this end, I will have to touch, if ever so briefly, on a wide range of issues, including the concept of essence and the metaphysics of ordinary objects, events, social groups, and immaterial artifacts. Clearly, it will here not be possible to offer any remotely exhaustive discussion of these various issues. It will thus be left to the reader to judge how attractive the proposed picture actually is. But to the extent that it *is* attractive, it will lend support to the paper's (appropriately qualified) titular thesis.

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[2] A concise but highly informative historical account can be found in Smith (1992), who traces the concept back to Aristotle's *Categories*. See also Crivelli (2004: §1.1), who focuses on the *Metaphysics*.

[3] Some theorists, working in a modal setting, distinguish facts from obtaining states on the ground that, were it (for example) not the case that snow is white, the fact that snow is white would not just fail to obtain but fail to *exist*. (See Fine [1982: 46f.].) This conception of fact matches what Armstrongians would call 'states of affairs'. Facts thus conceived will play no role in this paper.

[4] A caveat: I shall be exclusively concerned with 'absolute' states, leaving aside any arguments for the view that there are also 'perspectival' or tensed states. For relevant recent discussion, see, e.g., List (2023), Merlo (forthcoming). Cf. also Brogaard (2012).

[5] By a *transcendental* relation, I mean a relation whose 'field' stretches across all ontological categories. For example, a transcendental parthood relation will have instantiations not only by pairs of particulars but also by, e.g., pairs of states and properties.

2 States of Affairs: Why We Need Them

The best-known argument for the existence of states of affairs in the *Armstrongian* sense is the 'truthmaker argument' as presented in Armstrong's *World of States of Affairs* (pp. 115f.). One might accordingly wonder whether this argument can be adapted to our present purposes. Unfortunately, it does not seem that it can. In the first place, the argument would only support the conclusion that there are *obtaining* states; and what is more, one cannot easily be both a proponent of the truthmaker argument and a friend of non-obtaining states. For the argument relies on the idea that the state of a's being F will 'make it true', merely by existing, that a is F. If there now also existed a non-obtaining state that a is *not* F, this would, by parallel reasoning, suffice to make it true that a is not F. But then we would have the contradiction that a is both F and not F.[6]

For these reasons, the truthmaker argument will here have to be set aside. I will likewise set aside any argument that relies on the idea that states are objects of sensory perception, or that apparent reference to states is common in everyday speech. Instead I will present five other reasons. Each of them has to do with the theoretical utility of states (in semantics, philosophy of logic, and metaphysics) and supports the existence of non-obtaining as well as obtaining states.

2.1 First Reason: Distinguishing Sense from Nonsense

Our first reason stems from the observation that the belief in the existence of states affords a natural way of distinguishing between sense and nonsense. For it is natural to say that a sentence, as uttered in a given context, is nonsense (or at least semantically defective in some way[7]) iff there exists no state that could serve as its truth-condition in that context. This consideration supports the existence of both obtaining and non-obtaining states because meaningful *false* sentences will require non-obtaining states as their truth-conditions.

A critic might suggest that one could maintain a view under which, say, 'Nothing itself noths' is nonsense simply because, first, there is neither anything referred to by 'nothing itself' nor any property designated by 'noths', and second, either

[6]For other criticisms of truthmaker theory, see, e.g., Dodd (1999, 2002), Sider (2011: §§8.4f.), Williamson (2013: §8.3), MacBride (2014). For a recent defense, see Asay (2020).

[7]This disclaimer is needed because there are sentences that would be generally considered meaningful even though, arguably, they do not correspond to any state. The probably most common case is that of a sentence containing vague vocabulary. For the sake of illustration, consider the sentence 'Norm is bald'. Instead of a 'vague' or 'degreed' property of baldness, I take there to be only the 'precise' properties of *having fewer than n hairs on one's head*, where $n > 0$. (On the notion of a 'degreed' property, see Calosi and Michels [2025].) Clearly, no such property P will be such that Norm's instantiation of P can be rightly said to be *the* truth-condition of 'Norm is bald'. Instead there will only be a range of more-or-less eligible candidates for this office (and in the same way as with 'bald', we can reject the idea that the adjective 'eligible' picks out some 'vague' property). This will arguably make the sentence 'Norm is bald' *somewhat* semantically defective, even though it will not present much of a problem in practice.

of these two reference failures is sufficient for the nonsensicality of 'Nothing itself noths'. More generally put, the idea is that a sentence is nonsense iff either (a) the sentence itself is ungrammatical or (b) one or more of its constituent NPs or VPs exhibit reference failure.[8] However, there are reasons to think that this is not really adequate. Consider, for example, 'The sky is blue'. Plausibly enough, there is nothing—no entity—referred to by 'the sky', and yet the sentence strikes us as perfectly meaningful. An ontology of states allows us to say why this intuitive assessment is correct: even though there is no such thing as 'the sky', there is a *state* that serves as the truth-condition of that sentence (in a given context); in particular, a state that, as physics tells us, concerns the way in which the sun's light is scattered by our atmosphere. By contrast, *no* state corresponds in a similar way to such sentences as 'Nothing itself noths' or 'The mome raths outgrabe'.[9]

In sum, states are needed as *meaningfulness-makers*, to borrow a phrase from Robert Hanna (2015). If only this rolled as easily off the tongue as 'truth-makers'![10]

2.2 Second Reason: Concepts of Adicity

What is the difference between a property and a relation? Some theorists use the term 'property' in a broad sense that also covers relations, while others use the term 'relation' in an equally broad sense that also covers properties. But on a common understanding, properties are all of them *monadic*, whereas any given relation is at least *dyadic*.[11]

Unfortunately, it is much *less* common to find clear definitions of 'monadic' and 'dyadic'. On what strikes me as the most promising approach, we can define these terms by using a concept of *instantiation*. Thus an entity may be said to be *monadic*, and hence a property, iff there exists an instantiation of it (which may or may not obtain) by just one entity. Further, an entity may be said to be *dyadic* iff there exists an instantiation of it by some (not necessarily distinct) entities x and y, in this order.[12] Similarly for higher adicities. And what is an instantiation? A state of affairs, of course—or at least, that would seem to be the most natural option. Hence,

[8] For a view that is *roughly* in the vicinity, see Horwich (1998: esp. ch. 5).

[9] I am prepared to grant that, to *some* speakers, 'Nothing itself noths' may be perfectly meaningful. But even so, I would insist (*pace*, presumably, Heidegger) that that sentence is meaningful *only* in a certain less demanding sense than the one I have in mind here. While the sentence may very well be cognitively significant to some, in the sense of conveying to them a definite proposition (i.e., a definite sentential concept), concepts—and hence propositions—are cheap: it does not take much effort or imagination to devise concepts that have no correspondence to any aspect of reality. Fiction and mythology provide many examples.

[10] For further related discussion, see, e.g., David (1994), King et al. (2014: ch. 2), Stalnaker (2023: §2.3). For a contrasting 'deflationist' view, see, e.g., Field (2001: ch.s 4–5). It also bears noting that states can be of service in the semantic analysis of counterfactual conditionals (among other things), as suggested by Kit Fine's (2012, 2017a,b) *truthmaker semantics*.

[11] See, e.g., Carnap (1942: 17), Armstrong (1978: 75; 1997: 65).

[12] The suffix 'in this order' serves here only to indicate that the order of the supplied arguments is significant.

if there were no states, there would presumably be no instantiations; and, given the proposed analysis of adicity concepts, there would not be any properties or relations, either, since nothing would be monadic or dyadic, triadic, etc. But arguably there *are* such things as properties and relations. So there have to be states.

A critic of the foregoing definitions of 'monadic' and 'dyadic' might complain that they lack modal operators. Thus it might be proposed that the term 'monadic' be defined in such a way that an entity x counts as monadic iff there *possibly* exists an instantiation of x by a single entity. This *definiens* might, however, be better suited for a definition of '*possibly* monadic'. The previous paragraph's definition has the advantage of being not only simpler and (arguably) less obscure, but also easier to work with, given that its application does not require paying attention to modal issues.

2.3 Third Reason: Complex Properties

A third reason for admitting states into our ontology has to do with the individuation of properties. To begin with, it can be argued that there are *logically complex* properties. Van Inwagen (2004: 137), who thinks of properties as 'things that can be said about something', defends this claim as follows:

> If one of the things you can say about something is that it is red and another thing you can say about something is that it is not round, then, surely, one of the things you can say about something is that it is either red or not round.

Accordingly, if properties are things that can be said about something, then there ought to exist such a thing as the property of *being either red or not round*. By similar arguments one can arrive at the more general conclusion that there are various kinds of *logically complex* properties.[13]

Another consideration in favor of logically complex properties (the 'logically' will be suppressed in the following) rests on the observation that, if we accept the existence of complex properties, then some of them will be able to play the role of *sets*. Thus, for any x, the property of *being identical with* x can play the role of the singleton $\{x\}$; for any x and y, the property of *being identical with either* x *or* y can play the role of the pair set $\{x, y\}$; and so on.[14] By identifying sets with properties of this sort (or, if the identification should be considered inadmissible, by *replacing* them with these properties), we can reduce the number of basic categories of 'abstract' entities recognized by our ontology. The result is a more elegant and philosophically attractive metaphysic than the system we would end up with if we

[13]See Plate (2016) for a general account of what it means for a property or relation to be 'logically complex'.

[14]See, e.g., Carnap (1947: §23), Bealer (1982: ch. 5), van Inwagen (2023: ch. VI). I here take it for granted that it is reasonable, if not indispensable, to admit the existence of entities that can play the role of sets. This stance may be defended, e.g., by pointing out the usefulness of set-talk in combinatorial reasoning.

committed ourselves to a universe of sets, conceived of as *sui generis*, juxtaposed to a realm of properties and relations.

Let us agree, then, that there are complex properties. Now consider: what exactly is it that we *say* of a given complex property when we describe it as, e.g., the property of *being either red or round*? To satisfy the description, it will, of course, have to be a property that something has iff it is either red or round. But this will arguably not exhaust the content of the description. After all, there could quite plausibly be *more than one* property that all and only those things that are either red or round have in common. If God favors all and only those things that are either red or round, then *being favored by God* is a property that something has iff it is either red or round; and ordinarily one would not want to regard *being either red or round* as identical with *being favored by God*.

One way to address this issue is to wheel in modal resources and to say that, in describing a property as that of *being either red or round*, we describe it as the unique property P that is such that, necessarily, for every x: x has P iff x is either red or round. What guarantees that there is only one such property? If one follows Lewis, that guarantee comes from one's account of what sort of thing properties are, together with the set-theoretic Axiom of Extensionality. In particular, Lewis identifies properties with the sets (or classes) of their actual and merely possible bearers. This view, however, has long been recognized as problematic, even apart from the underlying modal realism.[15] Fortunately, there is a different, non-modal approach, which instead of *possibilia* employs states.

On this approach, the property of *being either red or round* can be characterized up to uniqueness by describing it as a property *whose instantiation by any given entity x is the state that x is either red or round*. Analogously, the property of *being favored by God* would be characterized as the property whose instantiation by any given entity x is the state that God favors x. Since, on any plausible way of individuating states, the state that x is either red or round is distinct from the state that x is favored by God, this approach, too, will allow us to distinguish those two properties even if God should happen to favor all and only those things that are either red or round.

2.4 Fourth Reason: Logic

At least to a first approximation, the time-honored *Principle of Non-Contradiction* can be phrased as the claim that, for any p, it is not both the case that p and not-p. But this formulation raises a question: what does the variable 'p' range over? On one possible reading, it ranges over *sentences of English*. This would mean that the

[15]For criticisms of Lewis's conception of properties that are independent of concerns about the underlying modal realism, see, e.g., Sider (1996), Bealer (1998: §4), Egan (2004), Schnieder (2004: 72f.). For critical discussion of Lewisian modal realism itself, see, e.g., Forrest (2001), Jubien (2009: ch. 3), Adams (2021: §1.3), van Inwagen (2023: §IV.3).

In principle, one could adopt a modal account of *being either red or round* like the one sketched in the main text and leave the 'necessarily' unanalyzed. Like Lewis himself, however, we should probably be wary of unanalyzed metaphysical necessity, since this would invite a charge of obscurity.

Principle is to be understood as the claim that

(1) For any declarative English sentence p, the sentences p and ⌜It is not the case that p⌝ are not both true.

But this is clearly unsatisfactory. On this reading, the Principle is a merely linguistic thesis and, more specifically, a thesis about declarative English sentences. Ordinarily, however, one would have thought that it is a *truth of logic* and that, as such, it holds independently of any linguistic fact.

Under a second possible reading, 'p' instead ranges over 'propositions', understood as contents of propositional attitudes. This would yield:

(2) For any proposition p, the propositions p and $\neg p$ are not both true.[16]

If the proponent of this reading takes propositions to be nothing other than states, then I have no objection. However, according to at least one prominent family of views about propositions—defended by, e.g., Hanks (2015) and Soames (2015)—propositions are types of mental act (such as the act of predicating redness of an object).[17] Under such a view, (2) would amount to a thesis about mental act-types. But surely the Principle of Non-Contradiction is not a truth of *psychology*!

We are looking for a kind of entity for the variable 'p' to range over that renders the Principle a truth neither of linguistics nor of psychology. A natural candidate would be states of affairs:

(3) For any state s, the states s and $\neg s$ do not both obtain.

Under this reading, the Principle of Non-Contradiction expresses a fact about states, which ostensibly makes it a truth of *metaphysics*.[18] Now, however, a critic might

[16]I here write '$\neg p$' to denote the proposition that is, in a suitable sense, the 'negation' of p. Below, the symbol '$\neg$' will be used as an operator that takes as its operand the name of a state. Merricks (2015: 78) argues that no proposition is "literally the negation of another", on the ground that "propositions do not have logical form". I think that his argument can be resisted, but here is not the place to discuss it.

[17]See Hodgson (2021) for a recent overview and additional references. In footnote 9 above I have taken propositions to be "sentential concepts". This classification is not incompatible with the view that propositions are types of mental act, since one might adopt a similar view about concepts in general.

[18]Cf. Reinach (1911: 251n.) as well as, e.g., Berto (2006), Tahko (2009). In Aristotle's *Metaphysics* (as translated by Ross), we read instead:

> The best established of all principles is that the same attribute cannot at the same time belong and not belong to the same subject in the same respect—with any qualifications which may be necessary in order to guard against objections. (1051^b19–23)

Rather than to quantify over states, this formulation quantifies over properties (or what Ross calls 'attributes', though Aristotle just has τὸ αὐτὸ: 'the same thing' rather than 'the same attribute'). Leaving Aristotle aside, however, it may be argued that (3) is the more general and therefore preferable formulation of the Principle, on the ground that it is at least a theoretical possibility that some states cannot be thought of as property-instantiations. For further related discussion, see Gottlieb (2023) and references therein.

suggest that, instead of using 'nominal' quantification over states, we follow Arthur Prior (1971) in simply quantifying into sentence-position:

(4) For any p, it is not the case that p and not p.

Advocates of this approach include Simons (1997) and Rayo and Yablo (2001). It is high time that we discuss it, since this same approach might also be thought to undermine the reasons given in Sections 2.1 and 2.3 above for the belief in the existence of states.[19]

My response is in two parts. First, I would contend that there is nothing objectionable in taking the Principle of Non-Contradiction, or any other "truth of logic", to be at the same time a truth of metaphysics (in particular, there is no reason to think that metaphysics is somehow insufficiently general or abstract). And second, I find it hard to see why (4) should strike anyone as less 'metaphysical' than (3). Let me explain.

According to Prior, quantification into predicate- and sentence-position is "perfectly well-understood" (p. 37) and not at all mysterious. Moreover, he takes it to carry no ontological commitment. Both claims can be disputed. Consider the construction 'for it to be the case that ... is for it to be the case that ...'. If we follow Prior's lead, we will need to employ this construction, or something analogous, where we would otherwise speak of identity between states (cf. the previous footnote). But with its help we can now ask, for instance, whether there exist any p_1 and p_2 such that it is not the case that: for it to be the case that p_1 is for it to be the case that p_2. More generally, we can ask up to what number n there exist $p_1, \ldots, p_n$ that are in this sense pairwise distinct. In other words, we can raise questions as to *how many entities there are* for a sentential variable to range over.[20] For all intents and purposes, this is an ontological question.

Similarly, it is clearly a metaphysical question just how those entities might be individuated; and the answer to this question is far from self-evident. *Pace* Prior, then, it would seem premature to call such quantification "perfectly well-understood".[21] Apart from this, however, it is hard to see why the entities that (4)

[19]More specifically, it might be thought, in the first place, that instead of saying that a sentence is nonsensical iff it fails to correspond to any state, we might just as well (at least roughly) say that a given sentence S is nonsensical iff, for each p, it is not the case that: for it to be the case that S is true (in a given context) is for it to be the case that p. This would seem to obviate our first reason for admitting states. And further, instead of characterizing the property of *being red or round* as the property whose instantiation by any entity x is the state of affairs that x is either red or round, we might instead characterize it as the property P such that, for any x: for it to be the case that x instantiates P is for it to be the case that x is either red or round. This would seem to obviate the reason given in the previous subsection.

[20]My use of the term 'entities' here and in the next paragraph may seem out of place to theorists who would like to reserve the term 'entity' for the inhabitants of a certain logical type. Such theorists should feel free to replace any occurrences of 'entities' with some suitable other term (perhaps 'items') that they consider more general.

[21]For further criticisms (in a broadly similar vein) of Prior's views about quantification into predicate- and sentence-position, see, e.g., Richard (1996: §1), Stalnaker (2023: 136–40), van Inwagen (2023: xvi–xviii). Cf. also Moltmann (2024), Dorr (forthcoming).

talks about—the entities for which questions of identity and distinctness can be formulated with the help of the 'for it to be the case that ... is for it to be the case that ...' construction—should not be regarded as states of affairs. If this is right, then (4) differs from (3) only in terms of notation.

2.5 Fifth Reason: Modality

Finally, it can be argued that states are needed as bearers of modal status. It is a platitude of common sense that there are countless ways the world could have turned out—countless ways for things to be. It is equally evident that there are numerous ways the world could *not* have turned out. For example, there could not have been a rock that is heavier than itself, and it could also not have been the case that five apples are less numerous than three oranges.[22] What *are* these ways that the world could or could not have turned out?

Clearly, they are not *sentences*: the clause, 'that there is a rock heavier than itself' refers to the same impossibility as its translation into any other language. Nor does it seem correct to identify ways the world could or could not have turned out with fine-grained propositions: that Cicero was a philosopher (to mention one way the world *has* turned out) need not and should not be distinguished from the way we say the world has turned out when we say that *Tully* was a philosopher. By far the most natural category under which to lump these ways seems to be that of states of affairs. (And the subsumption is mutual: just as each of those ways is a state, so every state may be said to be a way the world could or could not have turned out.) Accordingly, if we are happy to commit ourselves to ways the world could or could not have turned out, then we should accept the existence of states.[23]

Incidentally, we have here an argument against the Lewisian approach to the interpretation of modal talk. In Lewis's framework, the theoretical role of states—and hence of ways in which the world could or could not have turned out to be (as this phrase is understood here)—is played by sets or proper classes of 'possible worlds'.[24] As a result, there is in Lewis's system only *one* entity that plays the role of a way in which the world could *not* have turned out to be, viz., the empty set. Yet plausibly, there is more than one such way: the impossibility of there being a rock heavier than itself is surely distinct from the impossibility of five apples being fewer than three oranges. For whereas both are impossible, the first requires the existence of a rock while the second doesn't, and the second, unlike the first, requires the

[22] Cf. Naylor (1986). Her argument has been criticized by Sharlow (1988) as invalid, but her crucial claim that "there are many ways things could *not* have been besides the way that they actually are" (p. 29) still strikes me as practically indubitable. In this connection I should emphasize that, by 'a way in which the world could or could not have turned out', I do not mean a *maximally specific* way in which the world could or could not have turned out. It would thus not be appropriate to refer to these things—the 'ways' at issue in the present subsection—as 'worlds'.

[23] For related discussion, see also, e.g., Reinach (1911: 222), Dummett (1973: 126), Meixner (1997: §I.11), Textor (2021: §2.2).

[24] See, e.g., Lewis (1986c: 185) in conjunction with his (2002: 8).

existence of apples and oranges.

When I say that states are the "bearers of modal status", I mean that states are the things that can be meaningfully said to be possible or necessary. Now this may be seen to create an obligation to specify what it *does* mean to say that a given state is possible or necessary; and this is a notoriously tricky issue. All I can do here is offer a few preliminary considerations.

First, when we deal with modal status in everyday life, we are usually concerned with *physical* possibility and necessity: we ask whether the car could have gone faster, whether the plane could have flown higher, etc. In these cases we are in effect contemplating alternative arrangements and trajectories of particles. This is worth keeping in mind when we confront such slightly more philosophical questions as, 'Might I have failed to exist?'. From a flat-footedly formal point of view, this sentence would be naturally read as inquiring about the modal status of the state $\neg\exists x\,(x = s)$, where s is the speaker. But since '$\neg\exists x\,(x = s)$' is logically equivalent to '$(s \neq s)$', this path leads fairly straightforwardly to a negative answer: No, you could not have failed to exist, because it is logically impossible that anything should be non-self-identical. A less hard-nosed reading would interpret the question as being instead concerned with the modal status of a state that concerns arrangements and trajectories of particles: 'Might the history of the universe have taken a course that failed to contain anything that could be rightfully called *my* life?'. Our interlocutor might reject this second reading on the grounds that *her existence* is not just a matter of some particles constituting this or that kind of life. But I am afraid that in this case, the flat-footedly formal first reading will be the most plausible (or at any rate least *ad hoc*) option.[25]

Second, if we wish to distinguish between multiple impossibilities—as arguably we should, given what has been said three paragraphs back—then states have to be individuated in a suitably fine-grained ('hyperintensional') way. For instance, if we want to distinguish the impossible state $(\text{Socrates} \neq \text{Socrates})$ from the impossible state $(\text{Sappho} \neq \text{Sappho})$, then we cannot individuate states in such a way that any two classically equivalent formulas, such as '$(\text{Socrates} \neq \text{Socrates})$' and '$(\text{Sappho} \neq \text{Sappho})$', have one and the same state (if anything) as their truth-condition. This has an obvious consequence for the project of giving an account of possibility and necessity: in particular, we cannot just say that a given state is impossible iff it is identical with $\bot$, where $\bot$ is the truth-condition of some arbitrarily chosen contradiction. Instead, we have to say, to a first approximation, that a state is impossible iff it is the truth-condition of *some* contradiction (where the class of contradictions is understood to contain, among other things, any formula of the form '$\tau \neq \tau$', as well as any formula that *entails* a contradiction). The concepts of possibility and necessity can then be defined in the obvious way, by saying that a state is *possible* iff it is not impossible, and that it is *necessary* iff its negation is impossible.[26]

[25] See Menzel (2025) for a discussion of other approaches.

[26] This account will have to be made more complicated if it is to accommodate certain 'essentialist' intuitions, such as the thesis that no electron could possibly have been a potato. I am not convinced,

Before we move on, let me add a brief comment on the broader philosophical significance of switching from the more traditional 'world-based' approach to modality to the present state-based approach. One consequence of this move is that it obviates the problem of 'trans-world identity' as well as the complexities of Lewis's counterpart theory. This is clearly an advantage.[27] Another consequence is that the move considerably diminishes the intuitive appeal of the thesis that fundamental properties have their respective nomological roles essentially. A philosopher brought up on the world-based approach might easily come to find it slightly bizarre to think that there exists a possible world in which the properties of, say, *being an electron* and *being a quark* have traded places.[28] By contrast, the matter looks very different from the perspective of the theory of states. For let N_e and N_q be the respective nomological roles of electronhood and quarkhood, and let E and Q be electronhood and quarkhood themselves. Then, instead of asking whether there exists a *possible world* in which electrons are doing quark-things and quarks are doing electron-things, we would be considering the question of whether the state $N_e(Q) \wedge N_q(E)$ is possible (in a sense of 'possible' like the one suggested above); and there is nothing bizarre about the supposition that it is.

3 Some Objections Addressed

In the previous section I have laid out five reasons to believe in the existence of states of affairs. I think they are *good* reasons; the philosopher who rejects the existence of states has her work cut out for her. She will have to explain not only how she would distinguish sense from nonsense, but also how relations differ from properties and what it would take for a given property to be, e.g., the property of *being either red or round*. In addition, she will have to explain what she takes the quantifiers in general logical truths (such as the Principle of Non-Contradiction) to quantify over and what sort of entity, if not states, she takes to play the role of ways the world could or could not have turned out to be. All this amounts to a rather ambitious project. The body of work that comes closest to achieving it while avoiding commitment to states is probably Lewis's defense of Lewisian modal realism; but that view faces well-known difficulties (cf. footnote 15 above). It is not easy to see what alternative metaphysic the opponent of states might want to offer instead.[29]

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however, that there is much to be gained by adding such complications. (We will return to the topic of essence in Section 4 below.) It might also be wondered how we can accommodate the idea—which famously exercised Wittgenstein—that nothing could be both red all over and green all over. I suspect that the answer to this question can be found in the metaphysical analysis of the properties respectively picked out by (precisifications of) the adjectival phrases 'red all over' and 'green all over'; but here is not the place to go into details.

[27]For relevant discussion of the problem of trans-world identity, see, e.g., van Inwagen (1985). Counterpart theory has been criticized, e.g., by Plantinga (1974: ch. VI), Fara and Williamson (2005).

[28]See, e.g., Bird (2007: 75), who uses a different example.

[29]Further considerations in defense of states may be found, e.g., in Nolan (2017). Among other things, Nolan points out that

Even so, opposition to states, especially non-obtaining ones, continues to be wide-spread among philosophers, and there are several arguments on which this opposition might be based. My primary aim in this section is to defuse at least some of these arguments. For reasons of space, the discussion will have to be quite selective; but I hope at least to give an indication of how the most influential objections can be answered. In addition, the discussion of Lewis's attack on "magical ersatzism" in Section 3.3 will introduce two ideas that will also be relevant in Section 4.

3.1 Russell

We begin with a familiar passage from the *Philosophy of Logical Atomism*:

> You cannot say that you believe *facts*, because your beliefs are sometimes wrong. [...] You have to say that you believe propositions. The awkwardness of that is that obviously propositions are nothing. [...] Time was when I thought there were propositions, but it does not seem to me very plausible to say that in addition to facts there are also these curious shadowy things going about such as "That today is Wednesday" when in fact it is Tuesday. [...] It is more than one can manage to believe, and I do think no person with a vivid sense of reality can imagine it. (p. 196)

It is not far-fetched to suppose that Russell would say similar things about non-obtaining states as he here says about "propositions"; and untutored philosophical thought presumably agrees with what he would have to say.[30] For at least at first blush, it is intuitively attractive to think that we live in a world of facts (i.e., obtaining states) or even just *particulars*—a world in which there is simply no place for any such things as non-obtaining states. There are at least two factors that might seem to lend plausibility to this view. First, there is the Eleatic idea that existence just amounts to causal efficacy. This idea creates an immediate bias against causally inefficacious entities, as non-obtaining states may be taken to be. Second, there is a conception of the world that pictures it as a large space for things to be arranged in—large, but not without limit—so that everything there is must be located *somewhere* and take up some space. If, besides all the obtaining states, there were also innumerable *non*-obtaining states, it would be difficult to see how and where they would all fit in.

But both of these factors can (and arguably should) be resisted. There is no compelling reason to think that existence just amounts to causal efficacy, and much

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> [q]uantum mechanics is up to its neck in talk of states and systems: the fundamental target of theorising often looks to be the attempt to properly describe the evolution of a state-space (where a state-space is, at least at first blush, the mathematical description of a complex state, or perhaps a collection of states). (pp. 85f.)

As in the present paper, the term 'state' functions in Nolan's article as shorthand for 'state of affairs'.

[30] Cf. also Moore (1953: 254f.). In more recent times, Russell's stance has been shared by, e.g., Grossmann (1983: 330), Hossack (2007: 61).

the same goes for the idea that, in order for something to exist, it has to be located somewhere and take up space.[31]

In support of Russell's aversion to propositions, a critic might now adduce an argument from his earlier paper 'On the Nature of Truth and Falsehood':

> If we allow that all judgments have Objectives, we shall have to allow that there are Objectives which are false. Thus there will be in the world entities, not dependent upon the existence of judgments, which can be described as objective falsehoods. This is in itself almost incredible: we feel that there could be no falsehood if there were no minds to make mistakes. (p. 119)

In talking of 'Objectives', Russell follows Meinong. His remarks, in this passage, against 'false Objectives' might be reasonably understood as applying equally to non-obtaining states. However, his argument seems to hinge on an understanding of 'falsehood' that closely links this term to the concepts of *false judgement* and *cognitive mistake*; and these connections can be defensibly rejected. Just as something can be the case without there being anyone around to judge it so, something can also *fail* to be the case without there being anyone to judge otherwise.

But maybe there is something wrong not merely with non-obtaining states but with states *in general*. Take the fact that Mont Blanc is taller than Ben Nevis. One might wonder how this fact is 'held together'. A natural thought is that this vital work is done by the *taller–than relation*.[32] However, as Francis Bradley might point out, we now seem to be faced with a dilemma. For if this relation

> is nothing to the [prospective relata], then they are not related at all; and [...] their relation is a nonentity. But if it is to be something to them, then clearly we now shall require a *new* connecting relation. (Bradley 1893: 32)

This "new connecting relation" is of course meant to give rise to a regress. Whether that regress is in fact a problem is notoriously controversial; but it may also be thought (and I would like to suggest) that we avoid the dilemma altogether by rejecting the original question of how a fact is 'held together'. To be exercised over this question is to be in the grip of a picture: that of a state as somehow assembled—literally put together—from its various 'constituents'. Abandon the picture, and the question no longer arises. In particular, it appears that there is nothing obviously wrong with taking the fact that Mont Blanc is taller than Ben Nevis to be the (obtaining) *instantiation* of the taller–than relation by Mont Blanc and Ben Nevis, in this order; and similarly in other cases. Once we have reached this point, to ask how a state is 'held together' is neither here nor there, just as there is no point in asking how a *set* is held together.[33]

[31] For recent discussion of Eleaticism, see, e.g., Cowling (2015).

[32] Cf. Russell (1903: §§54f.). For commentary, see, e.g., Griffin (1993).

[33] The set-theoretic analogy has been made repeated use of by Eklund (2019). Admittedly, it will

3.2 Quine

One of Frege's more controversial conclusions in 'Über Sinn und Bedeutung' was the thesis that declarative sentences have their respective truth-values as their referents. A theorist accustomed to this view will naturally expect that, whenever a declarative sentence occurs in a referentially transparent context, that sentence can be replaced *salva veritate* with any other sentence of the same truth-value. Such a theorist was Quine; and a fitting name for the mentioned expectation is 'extensionality', since the truth-value of a sentence can be called the 'extension' of that sentence just as, following a long tradition, the class of a predicate's satisfiers is called the 'extension' of that predicate.[34]

Extensionality, says Quine, "does not merely recommend itself on the score of simplicity and convenience; it rests on somewhat more compelling grounds" (1953: 161). The argument he proceeds to give is a version of the infamous *slingshot argument*, so-called by Barwise and Perry (1981). If the argument were successful, it would show (or could be used show) that—under a certain, not *prima facie* implausible assumption about the individuation of states—there exists only at most one obtaining state and also only at most one *non*-obtaining state. However, fortunately for the friends of states, the argument fails.[35]

The most central of Quine's objections against states and related ('intensional') entities consists in his complaint about their lack of a "standard of identity". In

not be effective against someone who, like Lewis (1986a, 1991), identifies sets with mere aggregates of singletons; but that view is not widely shared.

As may be inferred from my remarks in the main text, I consider the question of how the 'unity of the proposition' might be secured to be one of philosophy's pseudo-problems. This stance contrasts with the prevalent attitude among theorists working in the Armstrongian tradition, such as Vallicella (2000) and Meinertsen (2018). It also contrasts with Betti (2015), who claims that "the defender of states of affairs", in being committed to both obtaining and non-obtaining states, "will have to assume *two kinds of non-mereological composition* or reticulation" (p. 79).

[34]Cf. Carnap (1947: §6), Montague (1969: 163).

[35]In saying that the argument 'fails', I mean that it is either invalid or rests on implausible premises, depending on the version. Cf., e.g., Read (1993), Künne (2003: §3.3.3), Restall (2004). To pinpoint the error in *Quine's* version, it is necessary to note, first, that Quine uses 'Λ' to denote the empty set and '$\iota\Lambda$' to denote the singleton of the empty set. In addition, he employs *class abstracts*, writing, e.g., '$\hat{x}(x = \Lambda\ .\ p)$' to denote the class of all entities that are (i) identical with the empty set and (ii) such that p is true (where 'p' functions as a schematic letter "short for some statement"). Finally, he makes use of a schematic sentence-operator 'F', stipulating that "the context represented by 'F' is not referentially opaque"; and his aim is to prove that, if '$F(p)$' is true, then so is '$F(q)$', where "'q' is short for some statement having the same truth-value as 'p'" (p. 161). The erroneous step relies on the following two lines (using Quine's numbering):

(19) $$F[\hat{x}(x = \Lambda\ .\ p) = \iota\Lambda].$$

(20) $$\hat{x}(x = \Lambda\ .\ p) = \hat{x}(x = \Lambda\ .\ q).$$

Quine reasons as follows (p. 162):

> Since the context represented by 'F' is not referentially opaque, the occurrence of '$\hat{x}(x = \Lambda\ .\ p)$' in (19) is a purely referential occurrence and hence subject to the substitutivity

Word and Object, he critically discusses some attempts at formulating a standard of identity for *propositions* in terms of such notions as 'stimulus synonymy' (§42); and later in the book he asserts that *facts* are "in the same difficulty over a standard of identity as propositions were seen to be" (p. 247). But of course, even if we grant that the individuation of facts is unclear, it is highly debatable to what extent this would help in justifying the thesis that there are no such things. For example, few would want to reject the existence of *words*, even though it is far from clear how words are to be individuated.[36]

3.3 Lewis

In the third chapter of *Plurality*, Lewis criticizes various alternatives to his modal realism. He divides these into three groups. Theories that embrace states of affairs as *sui generis*, rather than to treat possibilities as sets of sentences or pictures of some sort, fall under the third rubric, derisively labeled 'magical ersatzism'. His argument against magical ersatzism takes the form of a dilemma. On either horn, he raises the same two basic complaints, to which a third is added in the case of the second horn. His *first* complaint is to the effect that the magical ersatzer relies on a primitive modal concept and as a result "cannot explain modality" (p. 176). This complaint is relatively minor, for the ersatzer can respond that his theory has "plenty of other purposes" to serve even if it does not manage to explain modality—a reply which Lewis justifiably deems "[f]air enough" (*ibid.*). His *second* complaint is more serious and can be summarized in a single word: he finds magical ersatzism *unintelligible*, in that he does not see "how an ersatzer could possibly understand his own primitive" (p. 179). And finally, in the case of the second horn, there arises a further problem, having to do with a violation of a Lewisian requirement on the free recombinability of intrinsic properties and external relations.[37]

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of identity; so from (19) by (20) we can conclude that

$$F[\hat{x}(x = \Lambda \,.\, q) = \iota\Lambda].$$

His mistake lies in supposing that the referential non-opacity of the context '$F[\ldots]$' justifies the substitution of the occurrence of '$\hat{x}(x = \Lambda \,.\, p)$' in (19). In fact, the non-opacity of that context is nearly irrelevant for the envisioned substitution. What he would need instead is the non-opacity of the *different* context '$F[\ldots = \iota\Lambda]$'.

[36]On the individuation of words, see Miller (2020) and references therein. Quine's demand for identity criteria is famously associated with the motto 'No entity without identity'. For similarly famous critical discussion of this motto, see Strawson (1976). (Also cf., e.g., Plantinga [1974: 1n.].) Despite these criticisms, Quine's demand seems to me justified insofar as an identity criterion for states is a reasonable *desideratum* for any theory that deals with such things. I have tried to meet this demand in my (2025: §3.3.2, §5.4). The theory presented there has been further developed in Plate (MS[a],[b],[c]).

[37]As Lewis describes magical ersatzism in the introductory section of the chapter, it is a view according to which the abstract "ersatz worlds" it posits "just represent, it is simply their nature to do so, and there's nothing to be said about how they do it" (p. 141). The view that Lewis ends up discussing under the same label in §3.4 is not quite so restrictive. He there allows the magical

3.3.1 Main discussion

We can note straightaway that the relatively minor first complaint (about unexplained modality) is limited in its dialectical effectiveness by the fact that, arguably, not every theory of states of affairs will need to rest on a primitive modal concept. To be sure, *some* theories of states of affairs—such as that of Plantinga (1974), who is one of Lewis's chief targets—do rest on such concepts. But one could equally well construct an ontology of states in a first-order language that dispenses with primitive modal operators; and within the context of such a theory, one might then proceed to introduce a serviceable concept of necessity.[38] Let us therefore move on to Lewis's more important second complaint, that magical ersatzism is unintelligible.

What Lewis is trying to understand about the ersatzist theory is how the "concrete world" is meant to "select" the one or other "element": that is, how the world is supposed to 'make it the case' (as one might say, although Lewis himself does not use this phrase) that a particular state obtains.[39] He primarily considers two cases. First, he supposes that selection is an *internal* relation, and elements (i.e., states) are selected according to their respective intrinsic "representational" properties. In this case, he argues, we cannot have any access to those properties, which makes it a "mystery how anyone could have understood the predicate 'selects'" (p. 178). On the other hand, if selection is an *external* relation, it becomes mysterious why the concrete world should select the particular states it does: why it should select *one* state if there is a talking donkey and *another* state if there isn't. So we have a dilemma.

Lewis's argument is difficult to evaluate in part because it hinges on the concept

ersatzer the freedom to talk—albeit not in any very helpful way—about the intrinsic "representational properties" of ersatz worlds (and of "elements" more generally, i.e., of states); and what renders this position objectionable in his view is *not* that the ersatzer takes these properties to be simple or unanalyzable, but rather that they would have to be largely *unknowable*. Most of them would "lie entirely outside our acquaintance", so that it becomes a "mystery" how the ersatzer could have "understood his own primitive" (p. 178). Lewis's argument is therefore relevant even for an ersatzer who has something substantive to say about the intrinsic constitution of ersatz worlds.

A few comments are in order about Lewis's practice of applying talk of *representation* to ersatz worlds and states of affairs. In §3.1, he describes the ersatzer as positing a range of "abstract surrogates" that serve as "representations, so that it somehow makes sense to speak of what is the case *according to* them" (p. 137). Thus, if the ersatzer posits, for instance, the state of affairs that there exists a talking donkey, Lewis will suppose that the ersatzer takes this state to "represent" that there exists a talking donkey. To the ears of a states-of-affairs theorist, this will sound more than a bit odd, mainly because it creates the impression that states are *nothing more* than mere representations, and that the 'real thing' is what they represent or 'are about', namely portions of the "concrete world". As will become clearer in the following discussion, I consider this impression to be highly misleading, and accordingly I shall not be going along with Lewis's representation-talk.

[38] Cf. the proposal about modality sketched in Section 2.5 above. A non-modal ontology of states (along with properties and relations) may be found, e.g., in Plate (2025).

[39] In the main part of his argument, Lewis does not use the terms 'state' or 'state of affairs' but prefers the "neutral" term 'element'. Relatedly, he does not use the verb 'to obtain' but prefers to speak of "selection of elements" by the "concrete world" (pp. 174f.). There will be more to be said about this shortly.

of intelligibility, which is not as clear and precise as one might wish. Two important critiques that challenge his argument precisely on the issue of intelligibility (among other things) have been provided by Denby (2006) and Nolan (2020). Here I will instead focus on a different feature of Lewis's argument, which strikes me as equally fundamental. The following discussion may therefore be considered complementary to Denby's and Nolan's criticisms.

Lewis assumes (p. 174) that the ersatzer will take his "elements" to be abstract "in the Negative Way", meaning that they "have no spatiotemporal location; they do not enter into causal interaction; they are never indiscernible one from another" (p. 83). If so, there is a great gulf fixed between the "concrete world" on the one hand and the elements (i.e., the states) on the other, with the result that the latter and their distinctive intrinsic properties are radically removed from our epistemic reach. The problem of intelligibility with regard to the concept of "selection" is supposed to follow from this. Crucially, however, it is open to the ersatzer—as well as philosophically attractive (to my mind)—to reject Lewis's assumption and with it the picture of a radical division between the "concrete world" and the states. This may be seen by reflecting on the nature of *events*.

To begin with, it seems clear that the world is full of events and that events are 'concrete' at least in the sense that they have spatiotemporal locations and enter into causal interactions. But what of their *intrinsic* nature? We might take as our stalking horse the event of a particle x moving from point A to point B. Given that there are states, it will be extremely natural to say that this event is a conjunction of facts describing the trajectory of x as it travels from A to B. (Here 'conjunction' is used as a metaphysical term: for any given set of states, it may be supposed that there exists a state—namely, the conjunction of the members of that set—which obtains iff all of those members do.[40]) In particular, one of the event's conjuncts will be the fact that x is at A at time t_0, another will be the fact that x is at B at time t_1, and for each time t between t_0 and t_1, there will be a further conjunct to the effect that x is at such-and-such a location at t.[41] An analogous account may be given for any other event. If this is right, then many states are just as concrete as events are, because they *are* events.[42]

[40]For precedent, see, e.g., Chisholm (1976: 120), Bealer (1982: 50), van Inwagen (1986: 186f.).

[41]I am here ignoring complications arising from the nature of spacetime or quantum indeterminacy.

[42]The identification of events with facts has been advocated by, e.g., Fitch (1971), Chisholm (1976: §IV.6), Taylor (1985: ch. 4), Nolan (2017: 84f.); cf. also Lombard (1986: esp. §VIII.1.3), Kaiserman (2017: §4). According to Lewis, by contrast, an event is a class of spatiotemporal regions "of this or any other possible world" (1986b: 244f.). Against the present identification of events with states, he would object that it endows events with too rich an "essence" (cf. *op. cit.*, p. 250). We will return to this issue in the next section.

It may be helpful at this point to have a brief look at a well-known problem case. A critic might ask just *what* facts, exactly, go into the conjunction of facts with which the spinning of a certain metal disk is to be identified. If the answer is, 'All the facts that spell out the trajectories of the disk's constituent particles', then we seem to have no ready way of distinguishing the disk's spinning from its simultaneous heating up. (Cf. Davidson [1969: 230f.].) Perhaps the best way to respond to this problem is to help oneself to a slightly more fine-grained conception of events. In particular, let us

On this view, then, the stark opposition between states and the "concrete world" that underlies Lewis's argument simply evaporates. To see how this matters, we now have to look more closely at the concept of *selection* that is central to that argument. Lewis's challenge to the ersatzer is to make sense of this notion; but of course it is Lewis *himself* who has introduced it. It is worth keeping in mind the relevant passage:

> There is an important distinction among the elements [read: states]. Again I want a neutral word for it; so I shall just say that some of them are *selected*, others are not. Which ones are selected depends on what goes on within the concrete world. For instance, there are some elements that cannot be selected unless there is a talking donkey included as a part within the concrete world. [...] Since the selection of elements depends on the concrete world, we may take it as a binary relation that the concrete world bears to whichever elements it selects. (pp. 174f.)

On the background of the above proposal to identify events with facts, the ersatzer might think of the "concrete world" as the *conjunction* of all events (more or less in keeping with the Tractarian dictum that the world is the totality of facts). Let $\mathcal{E}$ be this conjunction. For a state that is itself an event, being 'selected' by $\mathcal{E}$ then just amounts to being a conjunct of $\mathcal{E}$. Things are more complicated for states that are *not* events.

Consider, for example, the fact that there is at least one donkey. Clearly, this fact should not count as an event. Setting aside the vagueness of 'donkey', let D be the property of *being a donkey*.[43] The fact that there is at least one donkey can then be symbolized as $\exists x\, D(x)$. What could it mean for $\mathcal{E}$ to 'select' this fact? On a natural approach, it means that $\mathcal{E}$ 'necessitates' it, where the relevant concept of necessitation is spelled out in terms of logical entailment.[44] This solution does in fact not deviate from the previous paragraph's proposal, provided that we adopt a sufficiently coarse-grained conception of states. In particular, one might suppose

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say that an *enriched event* is an ordered pair of two things: first, an underlying 'raw event' that is just a conjunction of microphysical facts, and second, a more general fact that captures a certain 'aspect' of this raw event, such as angular momentum or increase in temperature. Poor Fred's surprise, when he accidentally touched the spinning disk, was caused by the joint motion of the particles, a 'raw event'; but more specifically it was caused by that motion *insofar as* it amounted to a spinning (where this is to be understood in the sense that what was causally relevant about the particles' trajectories was their joint contribution to the fact that the disk was spinning). The notion of an enriched event allows us to repackage this information by supplying an item to which we can point as 'the cause' of Fred's surprise. It may not be good for much else; but in any case, I shall leave these complications aside in what follows.

[43] One good way to realize that 'donkey' is vague is to reflect on the question of which animal was the *first* donkey. Another way is to reflect on the difficulty of delineating the exact spatiotemporal boundaries of any given donkey. Given that 'donkey' is vague, there is arguably no *single* property picked out by 'donkey', and correspondingly no single fact picked out by 'the fact that there is at least one donkey'. (Cf. footnote 7 above.) But let us here ignore this complication.

[44] See, e.g., Plate (2025: §3.3.2).

(not implausibly) that a state s is identical with the conjunction $s \wedge s'$ whenever s' is necessitated by s. Under this supposition, and provided that $\mathcal{E}$ necessitates $\exists x\, D(x)$, we have that $\mathcal{E}$ is the same state as $\mathcal{E} \wedge \exists x\, D(x)$; and this means that $\exists x\, D(x)$ is a conjunct of $\mathcal{E}$, after all.

But there also seem to be states that cannot be dealt with so easily. Thus consider the fact that a given particle x is distinct from the ordinal ω. This fact is certainly not an event in any ordinary sense of the term. It should therefore not be included in the set of facts of which $\mathcal{E}$ is the conjunction; and it might further be argued that this fact is not *necessitated* by $\mathcal{E}$, either. (Intuitively, whatever events x may or may not be involved in seem to have little bearing on whether x is an ordinal.[45]) In this case we may just have to say that the fact obtains and leave it at that. Likewise for various other facts, as for instance those that correspond to precisifications of 'There are no talking donkeys'. Accordingly, there is reason to doubt that every fact has to be in some sense selected by the "concrete world": certain distinctness facts and universal quantifications are *prima facie* exceptions.

3.3.2 Mereological afterthoughts

In the preceding paragraphs, I have responded to Lewis's argument by undermining two of its basic presuppositions: the alleged divide between the "concrete world" on the one hand and the states on the other, and the idea that the concrete world must "select" (in some sense that it is ultimately the ersatzer's burden to clarify) each and every obtaining state. In addition, I have proposed to meet his challenge to the ersatzer, or one version of it, by indicating what selection by $\mathcal{E}$ amounts to.

A critic might object that, by focusing on selection by $\mathcal{E}$, I have neglected what Lewis has in mind when *he* talks about the "concrete world" in the context of his anti-ersatzist argument: namely, the mereological fusion of all (actually existing) particles and whatever else the physical universe may happen to contain. As long as it is granted that such a fusion exists, Lewis might insist that what goes on in *it* is what determines which states obtain (provided that there are states in the first place), and that therefore even $\mathcal{E}$ itself should be taken to be in some sense selected by this fusion.

This objection can be criticized on more than one point. What I would like to focus on in the rest of this section, however, is the underlying premise that there even *exists* a fusion of everything physical. I propose to do so in a quite radical way: by denying that there is any such thing as a mereological fusion in Lewis's sense.

Let me begin by emphasizing that I am no mereological *nihilist*. Our ordinary, non-philosophical talk of things and their parts can, I think, be made tolerably good sense of. (There will be more to be said about this in the next section.) It is only that I find there to be little reason to believe that the concept of parthood that is

[45] A critic might suggest that some 'metaphysical law' prevents ordinals from being involved in the sorts of event that physical particles are involved in. Be that as it may, the concept of necessitation that I have in mind here is of a *logical* sort, so that the question of what metaphysical laws there are does not seem to be relevant.

commonly employed by analytic metaphysicians actually succeeds in picking out a relation. Arguably, any relation picked out by that concept would need to have the following characteristics:

> **Relating parts to wholes.** The relation has an 'adequate extension': it relates parts to wholes and nothing else. If this were not so, the relation could hardly be called a 'parthood relation'.
>
> **Transcendental.** The relation's field stretches across ontological categories: for any x and y regardless of ontological category, the relation has an instantiation (obtaining or not) by x and y, in this order. This reflects the fact that the relevant concept of parthood is 'topic-neutral'.
>
> **Non-disjunctive.** The relation is neither a disjunction of more 'specialized' (i.e., category-specific) parthood relations nor the transitive closure of such a disjunction. This may be seen from the fact that analytic metaphysicians (and Lewis in particular) generally accept the existence of *transcategorical fusions*, such as the fusion of the Eiffel Tower and the number 2, whereas a disjunction of specialized parthood relations will not in general support the existence of such a fusion, and neither will its transitive closure.[46]

As far as I am aware, there is no good reason to think that there is a relation that satisfies all three of these conditions: that there is a *non-disjunctive transcendental parthood relation* (or NTPR for short). Consequently, it would seem reasonable to believe that no such relation exists. But if there is no such relation, then, arguably, the concept of parthood commonly employed by analytic metaphysicians must be regarded as defective—and not just in the way that *vague* concepts are defective. Rather, assertions like 'This is a part of that', when uttered with the analytic metaphysician's topic-neutral concept of parthood in mind, will be much like 'Nothing itself noths', in that they lack any (even approximate) truth-conditions.

As radical as this conclusion may sound, the thesis that there is no NTPR is not particularly novel. A very similar stance has been memorably expressed by van Inwagen:

[46]For example, suppose that there exist two parthood relations P_1 and P_2, where P_1 is defined exclusively on sets and P_2 exclusively on material objects. Since they are parthood relations, we may reasonably assume that both P_1 and P_2 are transitive and antisymmetric. Further, let D be the disjunction of P_1 and P_2: an entity x bears D to an entity y iff *either* (a) x and y are sets and x bears P_1 to y *or* (b) x and y are material objects and x bears P_2 to y. And finally, let P be the transitive closure of D (cf. McDaniel [2009: 269]):

$$P(x,y) =_{\text{df}} D(x,y) \vee \exists z \left(D(x,z) \wedge D(z,y)\right) \vee \exists z_1, z_2 \left(D(x,z_1) \wedge D(z_1,z_2) \wedge D(z_2,y)\right) \vee \ldots .$$

Now, unless there are things that are *both* sets and material objects, this last step, of taking the transitive closure of D, is clearly otiose: P and D will be co-extensive. For, by hypothesis, P_1 only leads from sets to other sets, while P_2 only leads from material objects to other such objects; and both P_1 and P_2 are transitive. Similarly, unless there are things that are both sets and material objects, there will be nothing of which both a set and a material object are a part (either in the sense of D or of P). In other words, there will be no transcategorical fusions.

> Does the word 'part' mean the same thing when we speak of parts of cats, parts of poems, parts of games, parts of curves, and parts of stories?
>
> I do not know how to answer this question, any more than I know how to answer the question, Does the word 'rising' mean the same thing when we speak of balloons rising, temperatures rising, and the average age of death rising? But I do think, as Ryle did, that it would be odd to maintain that there is something called 'rising' that balloons and temperatures and average ages can all do—although, of course, each can do it only in a manner appropriate to the kind of thing it is. [...]
>
> I want to say more or less the same thing about 'parthood'. (1990: 19)

A related thesis, recently defended by Wallace (2021), is to the effect that the English parthood predicate is *polysemous*. Someone who accepts this latter claim (and consequently accepts that there is no single 'multi-purpose' relation that is picked out by every use of the word 'part') will presumably not be tempted to believe that there is an NTPR. Similarly if one follows McDaniel (2004, 2009, 2014) in holding that there is more than one *fundamental* parthood relation, and that no fundamental parthood relation is transcendental. For on this view, the only transcendental parthood relation will be disjunctive.

The thesis that there is no NTPR is plausible not only because there does not seem to be any good evidence for the existence of such a relation. The belief that there *is* such a relation also goes against our everyday thinking about parts and wholes. Suppose, for instance, that you believe in an NTPR and I pose to you the question (nonsensical to my ears, though not to yours): 'Is this melody a part of that chair?'. You may reply, 'Obviously not'. I then ask, 'But how do you know?'. If sufficiently motivated, you might then disassemble the chair and produce a smallish heap of chair parts. Next, you hold each of them up individually and say 'This is not a melody', before you put it to the side, where the pieces thus discarded begin to form a separate heap. Finally you point at the new heap and declare that those are *all* the parts of the (former) chair.[47] Or suppose I ask you, 'Is this chair a part of that melody?'. Again you reply, 'Obviously not', and again I ask, 'But how do you know?'. So you jot down the melody, point out its various notes and rests and say of each one, 'This is not a chair' (or, if you want to be pedantic, 'What this *represents* is not a chair'). And then you assert that the parts you've just mentioned are *all* the parts of the melody.

What I hope becomes clear in this example is that the method of 'analysis' applied in the first case is very different from that applied in the second. How plausible is it that in both cases we are dealing with the same underlying phenomenon? Not

[47]This is overly simple, as it ignores proper parts of parts as well as arbitrary fusions of parts, but the general idea should be clear. A critic might now suggest that even a chair may have properties and the like as "non-spatiotemporal parts". Under this view (which Lewis took seriously), the described procedure will be still more inadequate, because it completely ignores those non-spatiotemporal parts. But if this view is correct, we apparently have no way of ruling out that the chair in question has a melody as one of its parts. This demonstrates, I think, the absurdity of the view. (For related discussion, see, e.g., van Inwagen [2011].)

very.[48]

Given that, as noted above, Lewis's concept of parthood is semantically defective, the same goes for any concept that might be defined in terms of it, such as Lewis's concept of mereological fusion. Accordingly, we can conclude that there is no "concrete world" as Lewis conceives of it. The closest thing we have to something deserving this title would seem to be $\mathcal{E}$, the conjunction of all events.

If there is no concrete world as Lewis conceives of it, then there is not much point in asking how that "world" might manage to "select" the one or other state. Conceivably, our critic may now suggest that we could reconceive the concrete world, not as a fusion, but as a *set* or *plurality* of all particles and whatever other physical objects there may be. It is unclear, however, why we should grant that a set or plurality of particles can be rightly said to 'determine' which states obtain. Here it may once again be instructive to consider the case of a single particle x. Suppose that x has a mass of 0.5 MeV, and let s be the state that this is so, i.e., the state that x has a mass of 0.5 MeV. Is there any sense in which either x itself or its singleton could be said to 'determine' that s obtains? It seems that there isn't; and it is hard to see how it would help if, instead of a single particle, or a singleton set of a particle, we were to consider a set or plurality (or indeed fusion) of *many* particles.

3.3.3 Coda

Let us take a last look at the pivotal defect in Lewis's argument that has been identified earlier in this subsection. In a nutshell, I have suggested that Lewis neglects the theoretical possibility—available to the ersatzer as well as philosophically attractive—that *what goes on in the concrete world*, the events, are themselves obtaining states. Conceivably, the Lewisian will at this point dig in her heels and insist that the notion of obtainment *itself* is unintelligible. (Never mind "selection".) I doubt, however, that this will stand up to scrutiny. Think back to the arguments of the previous section, in particular §2.4. As has been argued there, the Principle of Non-Contradiction should be understood as a truth about states, to the effect that, for any state s, the states s and $\neg s$ do not both obtain. If this is right, then the notion of obtainment is needed already for an adequate understanding of basic logical truths.

[48] Our critic might object that the example only shows, at best, that there are at least two different 'forms of composition' (to wit, summing and concatenation; cf. Fine [2010: §VI]), one applicable to the chair, the other to the melody, and that the example has therefore no tendency at all to show that there is no NTPR. In fact there might be *two* of them, each corresponding to one of those two forms of composition! But this reply seems both extravagant and unpromising. For what could be the *point* of supposing that either of those two forms of composition gives rise to a transcendental parthood relation, if that relation has no useful application to the other class of object—that is, if the relation that the parts of a chair bear to the chair is not borne by the parts of a melody to the melody? Indeed, the idea that either of those two relations is transcendental appears to presuppose that the corresponding form of composition is applicable 'across the board' to entities of any kind; but this is in either case apt to produce metaphysical monstrosities that no-one should be inclined to believe in, such as the fusion of a chair and a melody, or the 'concatenation' of a chair with itself. Cf., e.g., Mellor (2006: §3), Simons (2006: 605).

It may now be instructive to compare this with how *the Lewisian* might understand that principle. Instead of states, Lewis has of course his *ersatz states*, i.e., sets (or classes) of possible worlds. Accordingly, the Lewisian might understand the Principle of Non-Contradiction as the *mathematical* truth that, for any class of worlds $\mathcal{C}$, the actual world is not both a member of $\mathcal{C}$ and a member of $\mathcal{W} \setminus \mathcal{C}$, where $\mathcal{W}$ is the class of *all* possible worlds. I leave it to the reader to judge whether this would constitute a better interpretation of the principle.

4 State-Based Metaphysics: Credo and Catechism

It is time to draw some conclusions. The most central thesis to emerge from the foregoing is clearly:

> **First thesis.** There are such things as states of affairs (or simply 'states'), and some of them obtain while others don't.

A second thesis derives from what has been said in Section 2.2, concerning the existence of complex properties and their ability to serve as sets:

> **Second thesis.** There are such things as properties and relations, and they are abundant enough to include all the sets—or properties capable of serving the theoretical role of sets—as special cases.

The next two theses can be gleaned from the previous section's discussion of Lewis's argument against "magical ersatzism":

> **Third thesis.** Each event is a fact (i.e., an obtaining state).

> **Fourth thesis.** There is no non-disjunctive transcendental parthood relation.

These are the first four theses of what I propose to call *state-based metaphysics* (or *pragmatocentrism*, from πρᾶγμα, here in the sense of 'fact' or 'state of affairs'). A fifth and final thesis is suggested by the previous four taken together:

> **Fifth thesis.** All ontologically relevant structure is logical structure.

What does this mean?

Very approximately, it means that anything that can be rightly said to be 'structured' is structured in the same way as a state or a property, which is to say, logically (at least in a broad sense). For example, a state can be an *instantiation* of a property or relation by some entity or sequence of entities; it can be a *negation* of another state, a *conjunction* of some set of states (and with negation and conjunction, we naturally also have *dis*junction), or it can be an *existential quantification* of some property or relation. A property can be either fundamental, in which case it will be said to be

unstructured, or it can be abstracted from some state. The same goes for relations.[49] In other words, everything complex is logically complex; but this is still rough. *Less* approximately, the thesis should be understood as the claim that the kind of structure just alluded to—i.e., logical structure—is the only kind of structure that will need to be referenced in fundamental ontology. While entities can come together in various 'non-logical' (e.g., spatiotemporal or societal) arrangements, this kind of process does not give rise to any new entities.[50]

In what ways is this fifth thesis suggested by the first four?

It is suggested in part by the first, because non-obtaining states allow us to make sense of possibility talk: they obviate the need for (mereologically structured) possible worlds as conceived of by the Lewisian modal realist. It is further suggested by the second thesis, because a sufficiently abundant ontology of properties will incorporate (what can pass for) the set-theoretic universe, so that the structure of sets can be understood as a species of logical structure. It is suggested by the third, because the identification of events with facts implies that events are logically structured. And it is suggested by the fourth, because the rejection of a non-disjunctive transcendental parthood relation removes from our ontology any mereological fusions as ordinarily conceived of by analytic metaphysicians.

How can this proposal hope to accommodate the intuitive modal profile of events?

By introducing a distinction between essence *secundum esse* ('according to being') and essence *secundum dici* ('according to speech'). In the ordinary business of life, we tend to care not so much about the essences of things as we do about efficient communication. This purpose is served by taking a relaxed attitude to questions of trans-circumstantial persistence. For example, suppose that a certain flight to Paris arrived last Monday at 4pm. When discussing different counterfactual circumstances in which the plane arrived a little earlier or later, it would be both impractical and confusing to talk as if the original flight had in each case been replaced by a wholly distinct event. Instead, we will want to say that *that very flight* could have been a little shorter or a little longer. We have a rough idea of the conditions under which we are prepared to grant that the flight would (in modified form) still have taken place—but it certainly is *only* a rough idea, and likely to vary from speaker to speaker. Those conditions, however vaguely delineated, yield the flight's essence *secundum dici* for a given speaker. Would that same flight still have taken place if its departure had been delayed by six hours, and the plane had crashed over Northern Switzerland? Some may say that it would, others that it wouldn't; but it seems clear that the question

[49] That is, *if* relations can be adequately treated as simply polyadic analogues of properties. There is a case to be made for a more multi-layered treatment, on which relations are equivalence classes of sequences of *roles* (so that, e.g., the relation of *loving* would be the singleton of the sequence $\langle \textit{Lover}, \textit{Beloved} \rangle$), while properties themselves are a special case of roles. (Cf. Plate [MS(a),(c)].) But this does not materially affect the present discussion.

[50] It may be worth emphasizing at this point that my talk of logical structure does not involve any commitment to any of the highly contentious theses that have been discussed by, e.g., Dorr (2016: §6) and Goodman (2017) under some variation of the label 'Structure'.

has no real metaphysical significance.[51]

What about *essentia secundum esse*?

On the traditional modal approach, a property P is essential to an entity x iff x could not have lacked it. We can adopt an account that is similar in spirit while renouncing primitive modality by saying that a property P is essential to an entity x iff P's instantiation by x is the same state as x's self-identity, or in symbols: iff $P(x) = (x = x)$. (To see the motivation for this, note that the identity $(x = x)$ could not have failed to obtain given that x exists. Hence, if $P(x)$ is identical with $(x = x)$, then x could not have lacked P.) The totality of an entity's essential properties constitutes its essence *secundum esse*.[52]

Does this accommodate the intuition, made popular by Fine (1994), that it is not essential to Socrates to be a member of {Socrates}?

Not if, as suggested in Section 2.3 above, we identify {Socrates} with the property of *being Socrates* (in symbols: $\lambda x\,(x = \text{Socrates})$); for Socrates' self-identity is not distinct from his instantiation of that property. But this should not be considered a defect. Fine's intuition is plausible *if* we think of sets as *sui generis* mathematical objects, and it might be argued that this way of thinking about sets deserves to be regarded as the default conception. But there is no compelling reason to rest content with it.

What about the Finean intuition that it is not essential to Socrates to be distinct from the Eiffel Tower?

This can be accommodated if states are individuated in a sufficiently fine-grained fashion. And it certainly does seem plausible to individuate them in a way that is only *moderately* coarse-grained.[53] In the context of the above account of essence, the requirement posed by Fine's intuition is hardly demanding: all that is needed is that the state $(\text{Socrates} \neq E)$, where E is the Eiffel Tower, should be distinct from the state $(\text{Socrates} = \text{Socrates})$. For then the property of *being distinct from the Eiffel Tower* will not be essential to Socrates under the above account.

How does pragmatocentrism accommodate the existence of ordinary objects?

Disjunctively, or better, conditionally. *On the one hand*, there is the option of identifying ordinary objects with events. For what makes the existence of ordinary

[51] See Lewis (2000: 186) for a similar assessment. The notion of essence *secundum dici* has an obvious affinity to the 'inconstancy' aspect of Lewis's counterpart theory as laid out in his (1986c: §4.5). (Cf. also his [2015], where counterpart theory is applied to states and 'tropes'.) Interestingly, he did not employ a similar approach in his own (1986b) account of events. For recent applications of counterpart theorety to the individuation of events, see McDonnell (2016), Kaiserman (2017).

[52] A broadly similar account has been proposed by Correia and Skiles (2019: 650). The following example might help to illustrate the present proposal. Let P be some property and consider whether $\lambda x\,\exists y\,(x = P(y))$, i.e. the property of *being the instantiation of P by some entity*, is essential to the state $P(a)$, where a is some entity. Very plausibly, the answer is 'yes', because the property's instantiation by $P(a)$ is nothing but $\exists y\,(P(a) = P(y))$, which is in turn—at least under a plausibly coarse-grained conception of states (such as the one proposed by Plate [2016, 2025])—identical with the state $(P(a) = P(a))$.

[53] Independent motivation for such an approach can be found in Plate (2016: 14); cf. also Section 2.5 above.

objects hard to deny is primarily their apparent causal relevance—we can *see* them, *feel* them, etc.—and also, at least on some views, that we ourselves are such objects; but the better candidates for the relata of causal relations would seem to be *events*: excitations of the electromagnetic field in the case of vision, arrestation of movement and compression of tissue when I stub my toe on a rock. More generally, we are dealing with the activity of electrons, quarks, and gluons doing whatever it is they do. Accordingly, if ordinary objects are to be primarily thought of as causal relata, and causal relata in turn are events, then we have a strong case for identifying ordinary objects with events. More specifically, it appears attractive to identify them with their *intrinsic histories*.[54] *On the other hand*, the way we think and talk about ordinary objects is often hard to square with this identification. Thus Philip Peterson writes that a theory according to which physical objects are events "violates a too central preanalytic intuition that we can give up only at the cost of admitting that we don't know what we are talking about" (1997: 202). For those who agree with Peterson, state-based metaphysics offers the following option: deny that there are any ordinary objects to begin with, however convenient it may be to talk as if there were.[55] We are thus given a choice between two options. One way to express this stance is to use a conditional: *if* there are any ordinary objects, they are events. Or alternatively: *if* it is admissible to identify ordinary objects with events, then pragmatocentrism accommodates ordinary objects. If not, not.

Supposing that we identify ordinary objects with their intrinsic histories, how are we to think of their parts?

As their subconjunctions, or indeed conjuncts. Say a given object O is the conjunction of a large set S of 'micro-events'. Perhaps O is a cup that has a handle as a part. That handle will itself be a conjunction of a set S' of micro-events, where $S' \subset S$. This makes the handle a *subconjunction* of O. Parthood conceived of as subconjunctionhood "obeys all the canons of mereology"; in particular, no two states are ever conjunctions of the very same states.[56] Under a sufficiently coarse-grained conception of states, the handle will moreover be a *conjunct* of O. This will be the case if the conception in question validates the principle that, for any sets of states A and B with $B \subseteq A$ (and writing '$\bigwedge$' to symbolize the conjunction of a set of states), $\bigwedge A$ is the same state as $\bigwedge A \wedge \bigwedge B$.[57]

Does this treatment extend even to the smallest parts, the quarks and electrons?

[54]See, e.g., Sider (2001), Nolan (2012).

[55]For a survey of arguments against "conservative" views about ordinary objects (many of which are arguments in favor of some form of eliminativism), see Korman and Barker (2025: §2).

[56]The claim that subconjunctionhood "obeys all the canons of mereology"—the phrase is from Lewis (1986a: 37), who applies it to subsethood—has to be qualified in one respect: it is not the case that for every set (or plurality) of entities whatsoever there exists a conjunction of them. Rather it is only for every set of *states* that there exists a conjunction of them; and so we won't have any such thing as a 'fusion', i.e., conjunction, of a state and a property (given that no property is a state), contrary to the classical axiom of unrestricted composition. But this seems to me more of a feature than a bug.

[57]That this principle would not be wildly implausible may be seen by observing, e.g., that '$p \wedge q \wedge r$' is logically equivalent to '$(p \wedge q \wedge r) \wedge (q \wedge r)$'. Cf. also Section 3.3.1 above.

That depends on whether quarks and electrons are themselves events. If they are mere excitations of fields (as quantum field theory suggests), then that will plausibly make them events, and so the treatment will extend even to them. If, by contrast, they are *particulars*, then they will constitute an exception.

What bearing, if any, does this proposal have on Gibbard's (1975) much-debated problem of the Lump and the Statue?

Assuming that the statue and the lump have 'come into existence' at the same time and are also 'destroyed' at the same time, they are one and the same event. But when it comes to the consideration of counterfactual circumstances, we make use of different essences *secundum dici*, depending on whether we refer to the event in question as a lump or as a statue. This enables us to say, e.g., 'The lump would have survived flattening', even though we would *not* say: 'The statue would have survived flattening'.

How does the view treat immaterial artefacts, such as sentences or songs?

Analogously to its treatment of ordinary objects. *On the one hand*, sentences might be identified with types of inscription and songs with types of performance; under this proposal, sentences and songs are all of them types of event, and hence properties.[58] But *on the other hand*, these identifications do not sit well with the ways we generally think and talk about such things. The possibly most flagrant discrepancy lies in the fact that we think of them as *created* things. Thus songs are said to be created when they take shape in the songwriter's mind (or when they are written down and revised),[59] and sentences, at least on one way of thinking about them, when the languages that contain them come into use. For someone who wishes to hold on to this kind of conception, state-based metaphysics provides the option of *eliminativism*: there *are* no such things as sentences or songs as conceived of in that way, however convenient it may be to talk as if there were.[60] What there is instead are only the mentioned properties, as well as the particular processes—we might call them 'traditions'—by which a given part of a language, or a given song or other kind of immaterial artefact (conceived of as a property), is disseminated and 'preserved'. These traditions can be naturally thought of as events.

How are we to think of social groups and organizations?

On a *static* conception (which may be adopted if historical developments and

[58]By a *type*, I here simply mean a property; and I say 'types of event' rather than 'properties of events' because the former locution helps to specify the kind of property I have in mind. In particular, whereas a *property of Xs* is a property that can be had by some or even all *X*s, by a *type of X* I mean a property of *X*s that can be had *only* by *X*s. This usage differs markedly from that of authors such as Wollheim (1980) and Wetzel (2009), who recognize in types an ontological category distinct from that of properties.

[59]Cf. Mikalonytė (2022: §3.1) and references therein.

[60]Eliminativism about musical works (of the Western classical tradition), coupled with a fictionalist interpretation of the associated discourse, has been defended by Killin (2018). The identification of musical works with properties has been defended by Letts (2018). For a proposal as to how talk of parts and wholes should be understood when applied to such works (conceived of as 'types' taken to be distinct from properties), see Dodd (2007: §4.2); and see Dodd and Letts (2017) and Letts (2018: 65–67) for related discussion.

certain other considerations are of no interest), a social group may be simply thought of as a set of people. A group's organizational structure will typically be given by a 'network' of various relations, such as subordination, coordination, collaboration, competition, etc. These jointly define a complex n-adic relation, where n is the number of nodes in the network.[61]

And if historical developments *are* of interest?

In this case one might think of a group as its 'intrinsic organizational history': a conjunction of facts specifying its organizational structure over time.[62] With regard to counterfactual discourse, the same point that was above made about events also applies here: a group's essence *secundum dici* will typically differ from its essence *secundum esse*. And, as already in the cases of ordinary objects and immaterial artefacts, an eliminativist option also presents itself.

Finally, what of spatiotemporal regions?

These may be conceived of as sets of spacetime points—assuming, of course, that there are such things as spacetime points. As far as I can see, however, the fundamental nature of spacetime is at present far too uncertain to make any definite pronouncements.[63]

5 Conclusion

Much of the metaphysical theorizing over the past four decades has played out in 'mereology land'. Lewis was the main proponent, going so far as to reduce mathematical to mereological structure by identifying the non-empty sets with fusions of singletons. Some other philosophers have pressed fusions of *states* into service as conjunctions, thus taking a step towards reducing *logical* to mereological structure. These include Forbes (1989: 145) and Fine, with Fine going so far as to declare the "ur-use" of 'and' to be "essentially mereological rather than logical in character" (2017a: 638).[64] And throughout these decades, the conceptual arsenal put to use in the flourishing *metaphysics of ordinary objects* has been drawn from modal logic, set theory, and above all mereology, rather than from the theory of states.[65] Perhaps partly as a result, neighboring 'states-of-affairs land' has seen relatively little action.

One might be forgiven for wondering about all this. If, as Fine says, the ur-use of 'and' is essentially mereological, what does this mean for the ur-use of 'or'? If

[61] If one is happy to countenance what I have elsewhere (MS(a),(c)) called *relational roles*, then one could also think of that structure as a multiset of relational roles. This alternative conception has the advantage that it does not force us to make arbitrary choices about the ordering of argument-places.

[62] The observation that groups can gain and lose members has been stressed by, e.g., Uzquiano (2004) and Ritchie (2013), who also discuss other reasons to reject the identification of groups with sets.

[63] For relevant recent discussion, see Huggett and Wüthrich (2025).

[64] Fusions of *Armstrongian* states of affairs have also sometimes been employed as conjunctions, most notably by Armstrong himself (1997: 35).

[65] See, e.g., van Inwagen (1990), Sider (2001), Thomasson (2007), Sattig (2015).

conjunction reduces to fusion, would it not be odd if *dis*junction were to remain unaffected? Conceivably it will be suggested that disjunction reduces to set-formation. But it seems odd to think that two closely related kinds of logical structure should come apart in this way—one reducing to mereological, the other to mathematical structure.[66] Furthermore, this proposal would still leave various other kinds of logical structure (such as instantiation, negation, and quantification) unaccounted for. It thus appears far more satisfying to proceed in the opposite direction and, as proposed above, reduce both mereological and mathematical structure to logical structure.

Despite their theoretical utility, the recent history of analytic metaphysics has not been overly kind to states of affairs. One still finds philosophers talking as if the notion of a state of affairs were something to be shied away from; as if the concepts of negation and conjunction (as applied to states) were more obscure than those of part and whole; and as if talk of structured states were the result of illicitly projecting onto the world features found only in the syntax of our language. My hope for this paper is that it may help correct this picture by turning it on its head.[67]

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[66] Jago (2023) has recently introduced a relation of *refinement* that is supposed to play the same role with regard to disjunction as—on the Finean picture—parthood plays with regard to conjunction. This would be an alternative to the set-theoretic conception. But on either proposal, the familiar definability of conjunction in terms of negation and disjunction (via the identity $(p \wedge q) = \neg(\neg p \vee \neg q)$) seems to go out the window, since parthood is presumably definable neither in terms of negation and set-membership nor in terms of negation and refinement.

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