

Why Lewis Would Have Rejected Grounding

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Abstract: We argue that Lewis would have rejected recent appeals to the notions of ‘metaphysical dependency’, ‘grounding’ and ‘ontological priority’, because he would have held that they’re not needed and they’re not intelligible. We argue our case by drawing upon Lewis’s views on supervenience, the metaphysics of singletons and the dubiousness of Kripke’s essentialism.

Keywords: Lewis, Kripke, grounding, dependency, supervenience, singletons, essentialism

1. Introduction

David Lewis is often credited with having performed a leading role in the late 20th century revival of metaphysics.¹ But, in the early 21st century, metaphysics has developed along lines that Lewis did not himself anticipate. Now appeals to ‘metaphysical dependence’ and ‘grounding’ and ‘ontological priority’ have become *de rigueur* but these weren’t terms in which Lewis ever sought to illuminate us or to put our philosophical perplexity to rest—‘metaphysical dependence’, ‘grounding’ and ‘ontological priority’ just weren’t expressions that belonged to his official philosophical vocabulary, not when he intended to talk seriously and precisely. The following question becomes pressing for us if we are the gauge how far the prevailing spirit of analytic philosophy has transformed since Lewis’s death in 2001. Do contemporary developments reflect an oversight, a failure to appreciate the strength and depth of the metaphysical tradition to which Lewis belonged, or are they an enrichment of a

¹ See Moore 2012: 329-30 and Simons 2013: 722-3. Lewis himself saw himself as lying in a direct line of descent from several early twentieth century figures, including the early Carnap (Lewis 1991b). Lewis favoured the early Carnap as a metaphysician, specifically for his anticipating Lewis’s own use of natural properties and relations as reference magnets (Lewis 1983a: 370-7, 1984, 1991b). Drawing upon his correspondence, we examine Lewis’s views on reference magnetism in Janssen-Lauret and MacBride 2020a. Lewis’s historical speculations about ‘the metaphysical Carnap’ are argued to be fruitful in MacBride 2021.

tradition that was otherwise stymied, or do they signal that the tradition to which Lewis belonged has just reached the end of the road?

In this paper we argue that were Lewis to be writing today, he would—drawing upon the corpus of his established views—provide us with principled reasons for saying both (1) that we don't need the notions of 'metaphysical dependence', 'grounding' or 'ontological priority' and (2) that they're not intelligible notions anyway. They're not needed because, he would have held, either there is work to be done but all the heavy lifting can be achieved by other means or there really isn't any work that needs doing at all. They're not intelligible, he would have continued, because they presuppose metaphysical modalities which Lewis had always held suspect. So much the worse, we conclude, for contemporary developments, whatever may be *de rigueur*. The tradition to which Lewis belonged cannot be consigned to the dustbin of history.

2. *Supervenience and Conceptual Analysis*

Lewis, like Heraclitus, saw order in nature, a pervasive cosmic stability which Lewis described in terms of supervenience. Lewis was convinced *a priori* that every contingent truth supervenes upon the pattern of perfectly natural properties and relations. Impressed by the empirical success of physics to date, Lewis was also a committed materialist: on the basis of physics' extraordinary track record, he performed an optimistic induction, provisionally endorsing the *a posteriori* the doctrine that as a matter of contingent fact all the perfectly natural properties and relations that actually occur are fundamental physical ones. Putting these commitments together, he maintained an *a posteriori* supervenience of every contingent truth upon the pattern of fundamental physical properties and relations (1994: 291-2). Lewis conceived of this and other supervenience theses as 'in a broad sense, reductionist', but, as he put it, 'unencumbered' by 'claims of ontological priority' (1983: 358). We will argue that Lewis would have seen no need to encumber his materialist supervenience with 'metaphysical dependency' or 'grounding' either.

The notions of 'metaphysical dependency', 'grounding' and 'ontological priority' are often called upon to remedy what is felt to be an explanatory deficiency of supervenience theses. The felt deficiency is that supervenience is not a 'deep' metaphysical relation but a 'surface' relation that merely encodes a pattern of property covariation, at best suggesting the presence of 'an interesting dependency relation' that might explain the pattern but not

itself providing insight into why it obtains.² To say, for example, that the mental supervenes upon the physical is to say that there is no mental difference without a physical difference but not *why* there is such pervasive mental-physical property covariance. ‘Metaphysical dependency’, ‘grounding’ *etc.* are introduced to remedy this explanatory deficit that an appeal to an unencumbered supervenience thesis fails to address.³

What this motivation for introducing ‘metaphysical dependency’, ‘grounding’ *etc.* overlooks is the fact that Lewis never intended his supervenience theses to be taken in isolation, never as the end of the story. The deeper, explanatory insight which Lewis ultimately proffered was intended to arise from a combination of supervenience theses and analyses of the concepts required to state them. So unless scepticism about conceptual analysis is already presupposed, we cannot leap from the premise that supervenience theses merely report patterns of co-variation amongst properties to the conclusion that it is necessary to appeal to relations of ‘metaphysical dependency’, ‘grounding’ or ‘ontological priority’—because the wherewithal to explain why a pattern of supervenience obtains may arise from another source, the analysis of concepts.

To elaborate we focus upon Lewis’s materialism. Lewis’s favoured materialism was a doctrine of global supervenience, *i.e.* supervenience applied to whole possible worlds, favoured by Lewis because this allowed him to bypass questions about whether mental life is to some extent extrinsic to the subject (Lewis 1983: 362). Holding that all the natural properties of our actual world are physical ones, because physics has been hitherto successful in describing the workings of our world, Lewis proceeded to express his materialism thus: ‘if two worlds were physically isomorphic, and if no fundamental properties or relations alien to actuality occurred in either world, then these worlds would be exactly alike *simpliciter*’ (1994: 293). It follows that any two such worlds differing psychologically, *ergo* failing to be exactly alike, must differ physically. It also follows, Lewis reflected, that for anything mental there are physical conditions sufficient for its presence and physical conditions sufficient for its absence. For suppose, restricting our attention to worlds where no natural properties alien to our world are instantiated, that the physical condition *P* of one such world w_1 fails to be sufficient for the presence of a mental item *M* in

² See, for example, Schiffer 1987: 153-4 and Kim 1993: 167.

³ See Schaffer 2009: 363-4; Rosen 2010: 113-4 and Berker 2017: 735-7.

w_1 . Then there is another such world w_2 which satisfies P but doesn't include M —because if there weren't a possible world which satisfies P but doesn't include M , P would be sufficient for M . But this contradicts Lewis's materialism because then there are two such worlds which differ psychologically, *i.e.* with respect to the presence of M , without differing physically, *i.e.* with respect to the satisfaction of P . Similarly, if the physical condition P^* of one such world w_3 from which M is absent fails to be sufficient for the absence of M in w_3 , then there is another such world w_4 which satisfies P^* and M is present, but this violates Lewis's materialism too.

Now exactly what features of the relationship between the mental and the physical did Lewis aim to explain in terms of his materialism? Lewis himself explicitly distinguished two features, which we label, echoing his own words, 'placement' and 'tracking'. We distinguish a third, which we label 'co-variance', which addresses the question of why mental and physical properties co-vary. Even though Lewis did not explicitly reflect upon it, we argue that his views about supervenience and conceptual analysis provide the wherewithal to explain co-variance if they explain placement and tracking. We begin by looking at what Lewis had to say about placement and tracking.

Lewis distinguishes the question of how mental items 'can find a place in the world of fundamental physics' from the question of how 'Finite assemblies of particles—us—can track them' (1994: 295, 297). The former question Lewis took to have been settled by his materialism. It is a consequence of his materialism that a mental item can find a place in the world of fundamental physics *in the sense that* it follows from his materialism, as we have seen, that in a world where no natural properties alien to our world are instantiated there are physical conditions which determine the presence of any mental item and physical conditions which determines its absence. But Lewis's materialism leaves open whether the physical conditions in question are finitely expressible or rather infinitely miscellaneous, hence whether they are graspable by us as finite creatures. So Lewis called upon 'conceptual analysis' as an additional resource to address the latter question of how we are able to track the presence and absence of mental items (1994: 298).

His strategic idea was that an analysis of folk psychological discourse, conceived as a tacit body of common-sense theory, would make available to us, in principle at least, finitely specifiable physical conditions which as a matter of analytic necessity would be sufficient for the presence or absence of mental states. He conceived of terms for mental states as

implicitly defined by the platitudes of folk psychology. These are platitudes which, according to Lewis, concern the manner in which mental states—states which typically belong to a system of states had by a person—are apt to cause behaviour and apt to change under the impact of perceptual stimuli and other mental states which belong to the same system. When these implicit definitions are made explicit they furnish analytic truths which constrain the causal relations of the states (belonging to a system) to behaviour, perceptual stimuli and so on. So, according to Lewis, it is an analytic truth that if someone has mental states then she/he has states which, for the most part at least, exhibit the battery of causal relations described by the platitudes whereby mental terms are defined (1972: 250, 1974: 335). Of course, the analytic necessity whereby the platitudes of folk psychology constrain mental states is only 'verbal', not metaphysical (1994: 301); a mental state could have failed to exhibit the causal relations to behaviour, perceptual stimuli and other mental states whereby the platitudes implicitly define mental terms but in such circumstances it would no longer merit being described using mental terms, *i.e.* called a mental state.

Now the causal descriptions of states in which the conceptual analyses of mental terms terminate are 'topic neutral' (1994: 302): they say nothing about what sort of states exhibits the relevant battery of causal relations, neither whether they are mental or physical. They are, so to speak, bare descriptions of the causal profile analytically required of a mental state. But Lewis took physics, as a matter of contingent fact, to be 'explanatorily adequate' (1966: 23, 1994: 292). This gave him reason to suppose that states actually exhibiting the causal profiles analytically required of them to merit their being called mental are identical to physical states—in fact Lewis was confident that physiology would reveal the states which exhibit these causal profiles to be neural ones (1966: 24, 1972: 249, 1994: 303). More generally, if Lewis's materialism is true there is nothing else for states which fulfil these analytic requirements to be except physical states. And because, according to Lewis, the analytic requirements are finitely encoded in tractable folk psychological platitudes, they provide the 'simple formula' that explains our ability to track the occurrence of mental states in a world where every feature supervenes upon fundamental physics (1994: 310). We are able to track mental states in such a world because we are able to track whether there are physical states which exhibit the causal profiles analytically required of them to count as mental. This doesn't mean that Lewis thought us capable—as a matter of course—to identify individual neurological states which merit being called mental.

But he did think us able to track systems of neurological states satisfying the platitudes of folk-psychology, systems belonging to persons whose behaviour is predicted and explained by folk-psychology.

Evidently much more could be said by way of amplification and clarification of Lewis's account of how mental items find a place in a world of fundamental physics and how we are able to track their presence and absence.⁴ But our special focus here is: what about the complaint that Lewis's account cannot explain *why* the mental supervenes upon the physical? It was this felt deficiency which, recall, provides a key motivation for introducing 'metaphysical dependency', 'grounding' *etc.* to service an explanation of why the mental supervenes upon the physical. We call this the question of 'co-variance', a question of why this pattern of co-variation obtains. In fact, we argue, the materials Lewis assembled to account for tracking and placement also account for co-variance.

Why, for Lewis, can there be no mental difference without a physical difference—not, at any rate, in worlds where no natural properties alien to our world are instantiated? Conceptual analysis reveals, according to Lewis, that as a matter of analytic necessity, a mental term denotes a state that exhibits a certain package of causal relations to behaviour, perceptual stimuli and so forth. The 'explanatory adequacy' of physics at our world then settles that the only states which actually exhibit these causal profiles are physical states. Now in light of Lewis's conceptual analysis of folk psychology, what it means for there to be a mental difference is for there to be a shift in the analytically relevant causal relations exhibited by the systems of states belonging to a person, a shift whereby a system ceases to satisfy the analytic requirements for including a certain mental state or begins to satisfy other analytic requirements for including other mental states which had been absent

⁴ Lewis discussed these issues at greatest length in 'Reduction of Mind' (1994: 291-303). For a far fuller account and defence than Lewis himself provided of placement and tracking conceived in terms of materialist supervenience and conceptual analysis, see Jackson's *From Metaphysics to Ethics: A Defence of Conceptual Analysis* (1998), especially chapters one to three. See also Horgan 1984: 31-4 for discussion of Lewis's initial treatment of placement and tracking in 'Radical Interpretation' (1974). Commenting on Horgan's paper, Lewis wrote to him, 'I agree with your main point that the constraints whereby the whole truth about a world supervenes on its microphysics can only be matters of meaning. If supervenience formulations are in fashion because they hold out the hope of reductive analysis without analyticity, that's a false hope' (Lewis to Horgan 11th July 1983, Lewis 2020b: 127). It's a false hope, because, as we have seen, Lewis relies upon analytic truths about folk psychological terms to explain our capacity to track mental terms.

hitherto. Since the analytically relevant packages of causal relations are relations which, according to Lewis, physical states bear to other physical states, it follows that every difference in them is a physical difference. But not every difference in causal relations between physical states is a difference that it is analytically relevant to whether a physical state in a system merits being described as a mental state—not just any causal difference in our neural states matters to what we believe and desire but only the ones circumscribed by the meanings of folk psychological terms. So not every physical difference corresponds to a mental difference. *Ergo* the supervenience of the mental on the physical is asymmetric and so far from being a brute modality for Lewis, an intelligible consequence of his views about conceptual analysis and the explanatory adequacy of physics.

This explanation of co-variance is only effective if Lewis is right to assume the explanatory adequacy of physics and that there are stable folk-psychological platitudes from which conceptual analyses can retrieve descriptions expressed purely in terms of causal relations which are sufficient for the obtaining of mental states. Of course there are well known objections to these assumptions. It's not, for example, a foregone conclusion that there is a body of platitudes implicitly known by the folk such that the conceptual analysis of them terminates in purely causal descriptions without mental remainder, *i.e.* 'topic neutral' descriptions of causal profiles.⁵ In particular, it's not intuitively obvious that a physical state is a conscious state solely because it exhibits a certain causal profile. It's often claimed, for example, that conscious states also have a phenomenal character (although not by Lewis, who argues against the idea that mental states have phenomenal character in 'What experience teaches' (1988)). But to press these familiar objections is to dispute the adequacy of Lewis's conceptual analyses of mental terms. The important point for present purposes is that *if* these analyses are adequate *then* there isn't a further structural shortcoming in Lewis's views, namely an inability to explain co-variance, which can only be addressed by introducing 'metaphysical dependence', 'grounding' *etc.* Lewis's premises may be false but taken together they do explain co-variance. To explain co-variance it's not necessary to add to them a further premise about 'metaphysical dependence', 'grounding' *etc.*

⁵ For a response to objections to the employment of conceptual analysis in the service of physicalism, along lines that, we hold, Lewis would have found persuasive, see Jackson 1998: 60-7.

Lewis's account of placement and tracking (hence co-variance) crucially relies upon the availability of informative conceptual analyses of mental terms. But proponents of 'metaphysical dependence', 'grounding' *etc.* have challenged both the availability of informative conceptual analyses and whether conceptual analyses are ever non-trivial. According to the former challenge, conceptual analyses may only be framed in terms already grasped by fully competent speakers of the analysandum, but the interesting, supposedly 'analytic' claims made by philosophers, including the conceptual analyses of mental terms which Lewis proposes, are not available even to fully competent speakers. *Ergo* the 'analytic' claims made by philosophers, Lewis included, cannot be conceived as conceptual but must be understood otherwise as claims of 'metaphysical dependence', 'grounding' *etc.*⁶ According to the latter challenge, it is implausible that when philosophers differ, one party to the dispute is conceptually confused or that they are disagreeing over linguistic or conceptual matters, rather than something substantive. But if conceptual analyses can only be trivial then there can hardly be, as Lewis claims, analyses of mental terms that terminate in 'topic-neutral' descriptions without mental remainder—because that's not a trivial matter. Hence 'metaphysical dependence', 'grounding' *etc.* are urged upon us as the very notions philosophers need to make up this explanatory shortfall, because whilst conceptual analyses can only be trivial or false, claims of 'metaphysical dependence', 'grounding' *etc.* can be interesting and true.⁷ So here we have a different juncture, *i.e.* the availability of informative, conceptual analyses—distinct from the necessity to explain mental-physical co-variation—at which the proponents of 'metaphysical dependence', 'grounding' *etc.* find fault with Lewis's account and press the need for introducing their favoured notions.

We argue Lewis would not have been moved by either challenge. The conceptual analyses of mental terms envisaged by Lewis are 'topic-neutral' descriptions of causal relations and behaviour which he conceived to be 'available' to the folk, because descriptions of causal relations and behaviour are already familiar parts of our ordinary conceptual repertoire (1994: 299-301). Remember that Lewis didn't arrive at his physicalism by conceptual analysis alone, but relied upon the explanatory adequacy of physics to assure

⁶ See Rosen 2015: 189.

⁷ See Berker 2017: 738-9.

him that whatever satisfies these descriptions are physical states and Lewis maintained that explanatory adequacy of physics was an empirical matter. We conclude that Lewis would have given short shrift to the first complaint because he held that the conceptual analyses of mental terms upon which he relied actually are available to competent speakers.

The second challenge relies upon the assumption that conceptual analyses are invariably trivial if true—hence if a philosophical dispute appears substantial and difficult to resolve it is correspondingly unlikely to rest upon a conceptual, i.e. *trivial*, confusion by one or both parties. We ourselves allow that what appears to be a substantial dispute, especially one that occurs at such a high level of abstraction as philosophical theory operates, might ultimately arise from a confusion about something trivial and we don't suppose Lewis would have disagreed. But we don't need to speculate about what Lewis would have thought because he explicitly addressed the matter when reflecting upon his own analysis of value in terms of what we are disposed to value. He wrote, 'The equivalence between value and what we are disposed to value is meant to be a piece of philosophical analysis, therefore analytic. But of course it is not obviously analytic; it is not even obviously true' (Lewis 1989: 129). Lewis immediately added, 'It is a philosophical problem how there can ever be unobvious analyticity'. But, he continued, 'We need not solve that problem; suffice it to say that it is everybody's problem, and it is not to be solved by denying the phenomenon. There are perfectly clear examples of it: the epsilon-delta analysis of an instantaneous rate of change, for one'. So, Lewis implied, once one unobvious analyticity has been admitted such as the epsilon-delta analysis, there can hardly be an objection to admitting others.⁸ We conclude that Lewis wouldn't have been moved by the second challenge either because he denied that conceptual analyses if true are trivial.

Lewis conceived of the problem of how there can be unobvious analyticities as a compulsory question on the philosophical examination paper. He did not return to it in his published writings but some of his correspondence is indicative of how he would have

⁸ This wasn't a throw away remark by Lewis but something that had been on his mind for some time. Ten years before Lewis had written in correspondence, 'If functional analyses render common sense explicit, why don't they strike average people as obviously correct? This looks like the paradox of analysis; therefore it's suspect, because there are such things as unobviously correct analyses. Delta-epsilon definitions of continuity might be an example; and you could probably cook up examples (or find them in a puzzle book) involving kinship relations' (Lewis to Patricia Kitcher, 8 August 1978, Lewis 2020b: 55).

answered the question with more time. In one of his last letters, he compared conceptual analysis to inference to the best explanation, explaining how the former is no more trivial than the latter. He wrote, 'In all but the simplest cases, conceptual analysis does work by inference to the best explanation. We find ourselves disposed to make a priori judgements about what's possible, how various possible cases must or may be described, etc.; and we try to systematize these judgements as best we can. In part, it's a job of thinking up hypotheses, including ontological hypotheses as well as analyses; in part it's a job of looking for evidence – a priori judgements – that we might at first have overlooked; and in part it's a job of seeking a reflective equilibrium between our a priori judgements and theoretical desiderata such as parsimony, avoidance of arbitrariness, etc. Since our a priori judgements are often to some extent hesitant or indeterminate, there's plenty of room for trading off. It's very like the attempt to systematize empirical evidence, except that the evidence isn't empirical. As in the empirical case, conceptual investigation is a fallible business and shouldn't be expected to lead to certainty' (Lewis to Rea, 7th September 2001, Lewis 2020a: 437).

We interpret Lewis as making *inter alia* the following point. As ordinary language speakers we lack global oversight of how the different parts of our language fit together and relate to one another even though our practical mastery of individual expressions may be consummate. Once this is appreciated, it should no longer be expected that the analytic connections between different parts of our language should be immediately transparent to us just because we speak the language, much less that they should appear trivial. The assumption that analytic connections must be trivial presupposes that language as a whole is perfectly tractable to speakers, but it isn't. In short, Lewis's appreciation of the fallible and speculative character of our engagement with language as a whole makes unobvious analyticities inevitable for speakers like us. That's an important truth about us, not a reason for appealing to 'metaphysical dependency', 'grounding' etc.

3. Singletons and Lewis's Structuralism

We turn from the accusation that a claim of supervenience is unsatisfactory because it merely registers without explaining a pattern of property co-variation, to the quite different accusation that the notion of supervenience is expressively incapable of drawing the distinctions we need. Consider, for example, Socrates and his singleton (unit set)—often

invoked as a paradigm pair of one thing which ‘metaphysical depends’ (*etc.*) upon another.⁹ Suppose it is necessary that if Socrates exists he belongs to the singleton of Socrates, and necessarily, that singleton exists if Socrates exists.¹⁰ Then it follows that the existence of one supervenes on the existence of the other and *vice versa*. But according to proponents of ‘metaphysical dependence’, ‘grounding’ *etc.*, the existence of Socrates’ singleton is ‘metaphysical dependent’ upon or ‘grounded’ in the existence of Socrates and not *vice versa*. They conclude that because supervenience goes both ways but metaphysical dependence, grounding *etc.* only one way, the notion of supervenience is expressively deficient—unable to capture the asymmetric sense in which the singleton of Socrates ‘presumably’ depends upon his one and only one member.¹¹

What would Lewis have to say about this? One snappy response available to him would have been to refuse to accept that there is a metaphysical asymmetry between singletons and their members that it is obligatory to recognise. This was the kind of response Lewis gave to one of Armstrong’s criticisms of natural class nominalism, the doctrine that analyses sameness of type in terms of membership of natural classes where the notion of naturalness is taken as primitive, a doctrine which Lewis considered a viable competitor to Armstrong’s theory of immanent universals (1983: 347). In his *Universals: An Opinionated Introduction* (1989), Armstrong sought to draw Lewis down a path unfavourable to class nominalism Armstrong asked, ‘Is a thing the sort of thing that it is—an electron, say—*because* it is a member of the class of electrons? Or is it a member of the class *because* it is an electron?’ (1989: 27-8). To decide upon an answer, Armstrong declared ‘is a matter of deciding what is the direction of explanation’. To illuminate what he meant by ‘direction of explanation’, Armstrong compared Socrates question in Plato’s *Euthyphro*: ‘Are pious acts pious *because* they are loved by the gods? That is, is being loved by the gods what constitutes their being pious? Or do the gods love these acts *because* of their piety?’ (1989: 28). Armstrong’s favoured answer to his own question, detrimental to class nominalism, was, ‘it seems natural to say that a thing is a member of the class of electrons because of what it *already* is: an electron. It is unnatural to say that it is an electron because

⁹ See Schaffer 2009: 375

¹⁰ As, for example, Fine maintains. To justify his claim, Fine (1994: 4) invokes ‘standard modal set theory’, although significantly, we note, *not* standard set theory.

¹¹ See Berker 2017: 736

it is a member of the class' (1989: 28). It's an answer detrimental to class nominalism because if the type of a thing determines class membership then class membership cannot be used to analyse the fact that different things are of the same type, as class nominalism maintains.

In 1988 Armstrong sent Lewis a draft of *Universals: An Opinionated Introduction* and Lewis replied with a twelve-page commentary. On the present point, Lewis's snappy response to Armstrong was, 'I think this saddles the natural class nominalist with a commitment he doesn't have [...] He doesn't say that they're electrons because they're members of the class—or vice versa' (Lewis to Armstrong, July 1988).¹² Since, Lewis maintained, the class nominalist need not assume either thing, he, or she, need not be drawn by Armstrong's leading question to confound his or her analysis. More generally, Lewis simply refused to be drawn by Armstrong's *Euthyphro* question.

We consider Lewis's response here to be indicative of how Lewis would have responded to questions about whether *X* metaphysically depends upon *Y* or *vice versa*. The *Euthyphro* question is often employed as a technique for introducing the notion of grounding to initiates—to demonstrate how readily understood the notion is.¹³ Just ask: is an act pious because the gods approve or *vice versa*? Because then, it is claimed, initiates quickly appreciate that this is equivalent to asking: is the piety of an act grounded in the gods' approval or *vice versa*? But evidently Lewis didn't think that questions of this form are always obligatory—witness his refusal to be drawn on whether electrons are members of the class of electrons because they are electrons or *vice versa*. Similarly here, with respect to singletons and their members, Lewis could well have refused to saddle the set theorist with a commitment to supposing that singletons 'metaphysically depend' upon their members—or *vice versa*.

Whilst we consider this would already have been a legitimate move on Lewis's part, we also hold that Lewis would have had deeper reasons for saying that singletons neither depend upon their members or *vice versa*. We turn to develop them. Drawing upon his

¹² Lewis's commentary on Armstrong's manuscript was originally made available to us, as members of the AHRC project 'David Lewis: Age of Metaphysical Revolution', by Stephanie Lewis. It is now to be found in the David Lewis Papers (C1250) housed in the Firestone Library of Princeton University. We are grateful to Stephanie Lewis for granting us permission to quote from this material.

¹³ See Schaffer 2009: 375 and Berker 2017: 730-1.

evolving views about classes that appear in *Parts of Classes* (1991) and its sequel, 'Mathematics is megethology' (1993), we argue on Lewis's behalf that there is no two-way supervenience between Socrates and his singleton. During the 80s Lewis had indeed acknowledged the two-way supervenience, writing to Armstrong to reluctantly concede that, 'I am committed to accept the mystery: I believe there are unit sets, they are wholly distinct from their members, and exist automatically if their members do [...] it's just that I see no way around it' (Lewis to Armstrong 06/05/87, Lewis 2020a: 578). But, we argue, Lewis's mature philosophy of set theory finally gave him a way around having to acknowledge that singletons exist automatically if their members do. So far as the views of Lewis in the 90s are concerned, Socrates and his singleton are entirely 'loose and separate' existences—there is no necessary connexion between them. Hence, we conclude, Lewis would have seen no need to countenance a one-way relation of 'metaphysical dependency', 'grounding' *etc.* to explain how Socrates and his singleton are asymmetrically related. We begin with *Parts of Classes* before considering its more radical successor 'Mathematics is megethology'.

In *Parts of Classes* Lewis argued that set theory can be reconstructed within mereology if we take the notion of singleton as primitive and conceive classes as fusions of singletons, *i.e.* as having singletons as their atomic parts, the members of a class being the members of the singletons of which the class is a fusion. Lewis considered the reconstruction illuminating because it allows us to isolate what's distinctive, indeed peculiar, about classes. It's not their combining many things to make one thing, a class from its members, as Cantor had supposed—because, Lewis argued, the combining is done by mereology and Lewis took mereology to be perfectly understood and unproblematic. What's peculiar, according to Lewis, are the singletons themselves, because, he argued, the official axioms of set theory tell us 'nothing about the nature of the singletons, and nothing about the nature of their relation to their element' (1991a: 31). Nor, Lewis continued, are we helped out much by what he called the 'unofficial axioms' of set theory, remarks which he described as 'passed along heedlessly from one author to another', remarks such as 'classes are outside of space and time' or 'classes have nothing much by way of intrinsic character' or 'singletons may not turn out to be among the atomic parts of ordinary things' (1991a: 31, 33, 49). Lewis concluded that since singletons are the atomic parts of classes, our ignorance about the nature of singletons extends to the nature of classes generally—

because if we know nothing about singletons then all we know about classes is that they are fusions of their atomic parts.

This already spells trouble for ‘metaphysical dependency’, ‘grounding’ *etc.* If Lewis is right that we don’t know anything about the nature of singletons then *eo ipso* we don’t know that singletons metaphysically depend upon their members either. We provide corroborative evidence for this outlook by reflecting that the notions of ‘metaphysical dependency’, ‘grounding’ *etc.* don’t figure in the official axioms of set theory. Whilst we grant that a word-search on the informal glosses of set theory will sometimes throw up words like ‘determines’, such occurrences typically serve merely to introduce axioms where it is the axioms themselves that are conceived as the proper carriers of the precise meaning. Consider, for example, the Axiom of Extensionality, originally dubbed by Zermelo ‘*Axiom der Bestimmtheit*’. Zermelo describes each set as being ‘determined through its members’ and Fraenkel *et al* describe any set as being ‘completely determined by its members’. But what they meant by ‘determines’ (‘bestimmt’) wasn’t anything metaphysical but only an informal or shorter (‘kürzer’) gloss for what is precisely expressed by the Axiom of Extensionality itself: if X and Y have exactly the same members then $X = Y$.¹⁴

We further reflect that when Lewis wrote, neither ‘metaphysical dependence’ nor ‘grounding’ figured in the ‘unofficial axioms’ of set theory either. Do the proponents of ‘metaphysical dependency’, ‘grounding’ *etc.* now want to add a metaphysical update to the ‘unofficial axioms’—add that singletons ‘metaphysically depend’ upon their members? It doesn’t take much to qualify as an unofficial axiom because as Lewis characterised them, they’re only required to be ‘passed along heedlessly’ from one author to another. Nonetheless we maintain that Lewis would have found this unofficial axiom unhelpful too because it tells us nothing about the character of a singleton except that it is a ‘something we know not what’ which metaphysically depends upon its member.

There is, however, a far deeper response to be made on Lewis’s behalf to conceiving singletons in terms of ‘metaphysical dependency’, ‘grounding’ *etc.* To explain it, we turn to his efforts to get past this unhappy situation, the mystery of singletons. In a certain sense what Lewis offered was a counsel of despair, *analytic* despair. He gave up on the conceptual analysis of set theory as a source of insight into the nature of singletons. The contrast

¹⁴ See Zermelo 1908: 263 and Fraenkel, Bar-Hillel and Levy 1973: 27.

between Lewis's approach to set theory and his approach to folk psychology are striking. He held that conceptual analysis contributes towards the vindication of folk psychology—because an analysis of folk psychology terminates in informative analyses of mental terms, 'topic-neutral' descriptions of causal profiles, which then facilitates an explanation of the placement and tracking of them. By contrast, he held that conceptual analysis is incapable of performing a comparable role with respect to the vindication of set theory—because an analysis of set theory fails to terminate in anything informative. So Lewis sought to vindicate set theory along different lines, not by furnishing an analysis of it but by providing an explication instead. By 'explication' here we mean what Carnap and Quine meant: a substitute for a dubious expression or theory which fulfils whatever functions make the dubious expression or theory worth troubling about whilst avoiding its shortcomings.¹⁵

Lewis described his explication for set theory as a kind of 'structuralism'. He didn't mean thereby that his substitute for set theory was a theory of some special entity, 'an abstract structure', because, he wrote, 'I suspect such entities are trouble, but in any case, they're an optional extra' (1993: 220). Rather the distinctive feature of Lewis's preferred form of structuralism is that it lays down purely 'structural' or 'formal' requirements on reality thereby avoiding commitment to abstract structures and without presupposing that the elements over which it quantifies have a distinctive nature, thus circumventing the shortcoming of set theory that Lewis had pressed in *Parts of Classes*—namely introducing sets as *sui generis* but then neglecting to tell us what they are. Instead, according to his substitute theory, advanced in 'Mathematics is megethology', no thing counts as a singleton *per se* but only relative to a singleton function.¹⁶ What then is a singleton function for Lewis? Any unary one-one function s which satisfies the following formal conditions: (0) the range of s consists of atoms (call them ' s -singletons', *i.e.* singletons relative to s); (1) its domain consists of individuals (call them ' s -individuals', *i.e.* individuals relative to s) which don't have s -singletons as parts and all (small) fusions of s -singletons; and (3) all things are generated by iterated application of s and mereological fusion (1993: 220).

¹⁵ See Carnap 1947: 7-8 and Quine 1960: 258-9.

¹⁶ Lewis held this consequence to be 'bad news' for natural class nominalism because then a class is only natural relative to a singleton function (Lewis to Armstrong 28th March 1990, Lewis 2020a: 616).

Let's focus on s -singletons and s -individuals for some function s satisfying these conditions. An s -singleton x is the singleton of an s -individual y because x is an atom belonging to a collection of atoms which comprise the range of s , s maps y one-one onto x and s maps all the other s -individuals, fusions of s -singletons, fusions of s -individuals *etcetera* one-one onto s -singletons. What's notable for present purposes is that in order for x to qualify as the singleton of y relative to s , x need not lie in any further relation to y . There need be no special sense in which y is 'included' in x . In fact for any singleton function s there are many other singleton functions, also satisfying the formal requirements for being singleton functions, which have the same domain and range as s but map them together differently. Suppose that relative to s , x is the s -singleton of y and z is the s -singleton of w . Then there is another singleton function t relative to which x is the t -singleton of w and z is the t -singleton of y , because whereas s maps x onto y and z onto w , t maps x onto w and z onto y . More radically, x might exist in circumstances in which y doesn't exist but still figure in the range of another singleton function u , such that y is the u -singleton of something else that doesn't actually exist. Indeed y might exist without being the singleton of anything because there might be no singleton functions whatsoever for want of a sufficient supply of atoms onto which the individuals and fusions of individuals *etcetera* may be mapped one to one—because without an infinity of atoms that 'transcends our commonplace alephs and beths in much the same way that any infinity transcends finitude', set theory falls upon Lewis' explication (1993: 228).¹⁷

Bearing these points in mind let us return to the claim made by proponents of 'metaphysical dependence', 'grounding' *etc.* that there is two way supervenience between the existence of Socrates and the existence of his singleton whereas the singleton of Socrates depends upon Socrates but not *vice versa*, hence the need to introduce

¹⁷ Note that Lewis foreswore relying upon his thesis of the plurality of worlds in his account of set theory, explicitly remarking in *Parts of Classes* that 'I shall not rely on that thesis here' (1991a: 13). In the introduction to Volume I of his *Philosophical Papers*, Lewis famously wrote that he had 'succumbed' to the temptation to presuppose his views on one topic when writing on another (1983b: ix). But in his later writings and correspondence, Lewis moved away from doing this: 'I really don't want people thinking they have to agree with everything I say in order to agree with anything I say! [...] I'm willing to present views premised on my other views if I have to, though I (increasingly) try to avoid this' (Lewis to Priest 9/1/2001, Lewis 2020a: 428). We examine the extent to which Lewis advanced a philosophical system in Janssen-Lauret and MacBride 2018.

‘metaphysical dependency’, ‘grounding’ *etc.* It should now be evident that from Lewis’s point of view, this is all mistaken—if not, worse, a flawed conception of set theory arising from a failure to appreciate that set theory is silent about its subject matter.¹⁸ What’s key is that according to Lewis’s structuralism, the description ‘the singleton of Socrates’ is an improper description. Nothing is the singleton of Socrates *per se* but only relative to a singleton function. And relative to different singleton functions, different things qualify as Socrates’ singleton. In fact whatever qualifies as Socrates’ singleton relative to one singleton function qualifies as Plato’s singleton relative to another—indeed qualifies as the singleton of any individual relative to some singleton function (assuming there is a singleton function). Moreover whatever happens to actually qualify as a singleton of Socrates relative to some singleton function might have existed even though Socrates failed to exist and *vice versa*. Because singletons and their members are so loosely related and entirely separate the notions of ‘metaphysical dependency’, ‘grounding’ *etc.* fail to gain purchase.

The relationship between singletons and their members is often presented as a paradigm case of ‘metaphysical dependence’ or ‘grounding’. But it follows from Lewis’s structuralism that there’s nothing paradigmatic about this case at all. And if even a supposedly paradigmatic case of grounding turns out not to be so, how confident can we then be about other presumed cases? From here we might indeed proceed case by presumed case to consider what Lewis would have said negatively about each one. But in the next section we turn to more sweeping objections that flow from Lewis’s philosophy, objections to the very idea of ‘metaphysical dependency’ or ‘grounding’.

4. Facts and Metaphysical necessity

When we pass from presumed cases of ‘metaphysical dependence’ or ‘grounding’ to what are held to be the theoretical principles underlying the classificatory practice there is no consensus to be found—no consensus about what the notions of ‘metaphysical dependence’ or ‘grounding’ are. This makes it difficult to engage *en bloc* with proponents of ‘metaphysical dependence’, ‘grounding’ *etc.* Nonetheless it is possible to identify two

¹⁸ What goes here for Lewis’s structuralism also goes for other forms of ‘eliminative structuralism’, *i.e.* theories which eschew abstracts structures whilst considering it a matter of indifference what objects there are so long as collectively they exhibit the structure described by a mathematical theory. See, for example, Hellman 1996.

principles such that most proponents of ‘metaphysical dependency’ or ‘grounding’ will embrace one or other if not both of them, namely the principles, (1) that metaphysical dependency or grounding is a relation between facts, either *tout court* or at least in a significant range of cases, and (2) that metaphysical dependency or grounding holds of metaphysical necessity.¹⁹ We argue that if ‘metaphysical dependency’ or ‘grounding’ is constrained by these principles then Lewis would have denied the intelligibility of ‘metaphysical dependency’ or ‘grounding’. *Ergo* Lewis would have rejected most of contemporary work on ‘metaphysical dependency’ and ‘grounding’.

According to (1), ‘metaphysical dependency’ or ‘grounding’ is a relation which holds between facts. It is generally agreed that the facts in question are structured entities built up from worldly constituents including things, properties and relations. But whereas some proponents of ‘metaphysical dependence’ and ‘grounding’ conceive of facts as a thing’s possessing a property or some things standing in a relation, others conceive of facts as true propositions whose constituents are the things, properties and relations that the propositions are about.²⁰ The two approaches come apart because a fact in the former sense, say *a*’s being *F*, could not have existed unless *a* had *F*, whereas a fact in the latter sense, a true proposition, say that *a* is *F*, could have existed if even if *a* didn’t have *F*—although then it wouldn’t have been a fact, just a false proposition. But this difference need not detain us. What they have in common is the assumption that facts are structured entities individuated by their worldly constituents and manner of composition. And it’s on the basis of this shared assumption that Lewis argued against the intelligibility of facts so conceived.

Facts in the former sense are Armstrong’s states of affairs by another name. Whilst states of affairs had made an appearance in Armstrong’s *Universals and Scientific Realism* (1978), they become increasingly central to Armstrong’s metaphysics, culminating in *A*

¹⁹ That (2) grounding holds of metaphysical necessity is by far the more common view but there is a minority who reject it. Nonetheless the minority also typically hold that (1) grounding is a relation that holds between facts (see, for example, Leuenberger 2014: 3 and Skiles 2015: 720). Similarly whereas, for example, Fine (2012: 46) rejects (1), because he holds that ‘grounds’ is an operator rather than a predicate expressing a relation, he fully endorses (2) (Fine 2012: 38). So discussing (1) and (2) covers most of the bases even though not every proponent of grounding holds both principles.

²⁰ Contrast, for example, Audi 2012: 686 and Rosen 2010: 114.

World of States of Affairs (1997). Lewis set himself resolutely against this development, never faltering in his resistance.²¹ Here we reconstruct Lewis's argument against states of affairs as proceeding in three steps.

Step 1. The relation between a state of affairs and its constituents isn't the mereological part-whole relation.

Lewis adhered to a principle of 'unrestricted composition' whereby it's a sufficient condition for the existence of the whole $a+F$ that its parts, a and F , exist (1986a: 212). But it isn't a sufficient condition of the existence of the state of affairs a 's being F that its constituents exist. By contrast to $a+F$, a 's being F doesn't automatically exist if a and F exist but only if it's also the case that a instantiates F . Lewis also adhered to a principle of 'uniqueness of composition' whereby for given parts only one whole is composed from them (1986b: 92). But from the given constituents a , b and the non-symmetric relation R two distinct states of affairs can be composed, a 's bearing R to a and b 's bearing R to a . Hence, for these two reasons, constituency isn't mereological.

Step 2. The relation between a state of affairs and its constituents isn't strongly analogous to the part-whole relation either; hence states of affairs aren't composed (in any sense) of their constituents.

Whilst Armstrong acknowledged that states of affairs aren't mereological wholes he nevertheless continued to maintain that they are wholes in some 'unmereological' sense (1986: 85, 1989: 41, 1997: 119-20). In earlier formulations of his argument against states of affairs, Lewis appealed to a further principle, namely that there is only one mode of composition, the mereological one. He swiftly concluded that 'unmereological whole' is a contradiction in terms (1986b: 92, 1992: 213). Unfortunately this left the Armstrong-Lewis

²¹ See Armstrong 1978: 113-6, 1989a: 88-96, 1989b: 40-3, 1993: 429-31 and 1997: 113-117. Lewis rehearsed his criticism of states of affairs in subtly different forms in his 1986a: 183-7, 1986c: 92-3, 1991a: 57, 1992: 213, 1997: 30, 1998: 218-9 and 2001: 611. In addition to the letters to Armstrong, McGowan and Shoemaker discussed here, see also the letters to C.B. Martin (28th September 1993) and Grossman (16th June 1995)(Lewis 2020a: 680, 699).

dispute a stand off, Lewis using the principle that there is only one mode of composition as basis for denying that states of affairs are wholes, whilst Armstrong used states of affairs conceived as wholes as counter-example to Lewis's principle. But in later formulations Lewis sought to break the impasse by granting Armstrong that the way states of affairs are built up from their constituents is in some ways analogous to the way wholes are composed from their parts whilst pointing out that the disanalogies outweigh the analogies (1999: 218-9, n.1).

It's in his correspondence that Lewis spelt out most fully what he had in mind (Lewis to McGowan 4th March 1998, Lewis 2020a: 723). The analogy Lewis grants Armstrong, is that just as the existence of a state of affairs entails the existence of its constituents, the existence of a whole entails the existence of its parts. But after that there are only disanalogies. The existence of a whole is entailed by the existence of its parts, but, as we have seen, the existence of a state of affairs isn't entailed by the existence of its constituents. That's because states of affairs are governed by a principle of instantiation (necessarily, if a instantiates F then the state of affairs a 's being F exists) but mereology has no analogue of this principle. Lewis continued, 'Mereological composition is transitive and associative. If X is part of Y which in turn is part of Z , then X is part of Z ; $((D+E)+F)$ is the same as $(D+(E+F))$. There are no parallel principles for constituency. Mereological composition is insensitive to order: $D+E+F$ is the same as $E+D+F$ or $F+E+D$ or.... Whereas, if R is an asymmetric relation, $R(A,B)$ and $R(B,A)$ are two different states of affairs; and $A(B,R)$ or $B(R,A)$ would be ill-formed, so don't exist at all' (Lewis to McGowan 4th March 1998). Lewis concluded that the disanalogies are in fact so weighty that 'unmereological composition' is 'a straightforward contradiction in terms'.

Step 3. Since states of affairs aren't (mereologically) composed of their constituents, the only handle we have upon how states of affairs are constructed out of their constituents is in terms of necessary connexions that obtain between states of affairs and their (mereologically) distinct constituents. But this means states of affairs fall foul of the Humean prohibition on necessary connexions.

If states of affairs aren't (mereologically) composed of their constituents how else can we explain how states of affairs are constructed out of their constituents? Constituency, as we

have elaborated in the foregoing steps, gives rise to necessary connexions which distinguish constituency from mereological composition—for example: necessarily, if a instantiates F then a 's being F exists. Now the only intelligible answer Lewis could fathom to the question of how states of affairs are constructed out of their constituents was to define their construction in terms of the necessary connexions that are distinctive of constituency. To be a constituent of a state of affairs is to be a thing which enters into the relevant necessary connexion to a state of affairs (2001: 611).

Why could Lewis fathom no other answer? We speculate because states of affairs are typically introduced and explained in terms of their necessary connexions—the state of affairs a 's being F introduced just as the item which if it exists necessitates that a and F exist and a instantiates F , and so on. It's because states of affairs stand in these necessary connexions that they are posited; it's what suits states of affairs to perform the role of truthmakers, their *raison d'être* so far as Armstrong was concerned, or what suits them to determine which things have which properties or stand in which relations, as Russell emphasised.²² We've never been furnished with a description of states of affairs that, so to speak, operates at a deeper level and explains why these necessary connections hold of states of affairs. Of course describing states of affairs in terms of their 'unmereological constituents' may appear an initial step to remedy the lack but Lewis's point was that our only understanding of 'unmereological constituents' circles back to invoking necessary connexions between mereologically distinct existences, or more strongly, as he once wrote to Armstrong, all we have is 'a metaphor inspired by the case of mereologically not distinct existences' (Lewis to Armstrong 6th May 1987m Lewis 2020a: 578).

In the same letter to Armstrong, Lewis voiced his concern thus, 'In the case of states of affairs, the question is: if Fa and a are mereologically distinct, how can it be necessary that the latter exist if the former does?' Lewis dubbed this 'the mystery of states of affairs' and likened it to what he took to be the 'mystery of unit sets', 'the same problem is my main worry about sets: if a and its unit set are mereologically distinct how can it be necessary that the latter must exist if the former does' (Lewis to Armstrong 6th May 1987).²³

²² See, for example, Armstrong 1989: 41, 1997, 115 and Russell 1914: 60-1.

²³ Lewis also raised corresponding concerns about structural universals conceived as unmereological wholes composed of simpler universal as unmereological constituents and how laws of nature conceived as higher-order states of affairs can entail their lower-order

We have argued that Lewis eventually resolved the latter mystery in ‘Mathematics is megethology’ (1993) by invoking structuralism—which allowed him to explain how unit sets (singletons) can be mathematical serviceable without being necessarily connected to their sole members. But if states of affairs are to perform the roles for which they are posited by Armstrong *et al*, they have to be necessarily connected to their (mereologically) distinct constituents—if, for example, the state of affairs *a*’s being *F* is to serve as a truthmaker then it’d better be the case that necessarily, if it exists then *a* has *F*. Since, according to Lewis, ‘it is the Humean prohibition of necessary connections that gives us our best handle on the question what possibilities there are’, he dismissed states of affairs as bad news for systematic metaphysics (2001: 611).²⁴

We note that the second step of Lewis’s argument isn’t strictly required for his conclusion. One might, and Lewis sometimes did, proceed directly from the first to the third, *i.e.* proceed from the acknowledgment that the composition of states of affairs is unmereological to the conclusion that the only understanding we have of the construction of states of affair is in terms of necessary connections. To make this move, he didn’t need to go via the lemma that unmereological composition is far more disanalagous than analogous to mereological composition. Our exegetical claim is that Lewis sometimes included the second step for its persuasive or therapeutic value, but sometimes left it out for reasons of brevity because it isn’t strictly required. What is its therapeutic value? Appreciating the extent of the disanalogies that obtain between mereological wholes and states of affairs helps dislodge any naïve confidence we may have that states of affairs are well-understood

instances. See Lewis 1983a: 365-6, 1986b: 36-9 and 1986c: 92. The extent to which Lewis’s resistance to unmereological composition, *i.e.* necessary connexions, was owed to Quine is explored in Janssen-Lauret 2017. For a more general account of the relationship between Quine and Lewis, see Janssen-Lauret and MacBride 2018: 56-62 and 2020b.

²⁴ Why did Armstrong never heed Lewis’s critique, beyond granting that states of affairs are unmereological? Lewis suggests an answer in one of his letters. It had always been a central thesis of Armstrong’s metaphysics that universals are immanent rather than transcendent (Armstrong 1978: 64-87, 1989a: 75-7, 1997: 21-2). In correspondence Lewis wrote that if Armstrong were to give up thinking that universals are constituents of states of affairs, at least in some unmereological sense, then this would compromise their immanence, ‘I think Armstrong has some sort of unexplained primitive relation between the state of affairs and its constituents. Without some reason to think of this relation as if it were composition, I’m not sure he’s entitled to say that the universal is ‘present in’ the particular instance’ (Lewis to Shoemaker, 17th September 1990, Lewis 2020a: 386).

or *bona fide* because of their similarity to mereological wholes and helps us appreciate that our understanding of states of affairs is really to be cashed out in terms of a grasp of the necessary connexions characteristic of them.

Our present focus is: what would Lewis have said about the principle (1) that grounding is a relation which holds between facts (at least in a significant range of cases)? If the facts in question are akin to Armstrong's states of affairs then Lewis would have rejected (1) because such facts violate the Humean prohibition on necessary connexions. But, as we noted earlier, some proponents of 'metaphysical dependency' and 'grounding' conceive of facts differently, as true propositions with worldly constituents. What would Lewis have said about (1) if it's facts so conceived that grounding relates? We maintain that Lewis would still have judged (1) to violate the Humean prohibition on necessary connexions. That's because such facts (true propositions) are still conceived by proponents of 'metaphysical dependency' and 'grounding' as structured items built up from things, properties and relations which aren't composed mereologically either. For example, the propositions that Lewis admired Armstrong and that Armstrong admired Lewis are both true, and they have the same constituents, but they're not the same fact even though only one whole can be assembled from their constituents. Moreover, unexcused necessary connexions are nearby: the existence of the structured unit that *a* is *F* entails that *a* and *F* exist and *a* has *F* even though the proposition is mereologically (distinct) from *a* and *F*.²⁵ We conclude that Lewis

²⁵ But don't the accounts offered by neo-Russellians to explain how structured entities are endowed with truth conditions have a role to perform here? We conjecture that Lewis would have found such accounts problematic because necessary connexions are presupposed rather than ultimately excused or explained by them. So, for example, Rosen (2010: 114) suggests that Jeffrey King's account of propositions might serve for the purposes of defining his favoured notion of metaphysical dependency. But King conceives of propositions as themselves a kind of fact in the other sense, *i.e.* as states of affairs in Armstrong's sense. As King explains, 'Let's call an object possessing a property or *n* objects standing in an *n*-place relation, or *n* properties standing in an *n*-place relation or etc. a *fact*. We'll call the objects, properties and relations that are parts of a fact its *components*. So the fact of object *o* possessing property *P* has *o* and *P* as components. By definition, all facts obtain. For if an object *o* fails to possess a property *P*, then there is no fact of *o* possessing *P*. Thus, there are no facts that fail to obtain the way I am using the term. My claim is that propositions are just certain facts' (2008: 26). The facts in questions are complex facts whereby sentences and their lexical constituents are assigned interpretations. What is important for present purposes is that King's facts are unmereological structures akin to

would also have rejected grounding as a relation between true propositions conceived as structured but non-mereological wholes—because if ‘unmereological whole’ is not a contradiction in terms the only way to understand it is in terms of prohibited necessary connexions.

Of course many proponents of ‘metaphysical dependency’ or ‘grounding’ who endorse the second principle identified earlier—that (2) grounding holds of metaphysical necessity—will hardly be moved by Lewis’s appeal to a Humean prohibition of necessary connexions. This is because, in least in some cases, the dependencies they posit consist in relations holding of metaphysical necessity between distinct existences. Consider, for example, the avowedly ‘anti-Humean’ claim that regularities metaphysically depend upon nomic facts ‘as a matter of metaphysical necessity’ (Rosen 2010: 14). So we turn our attention to this second principle.

Proponents of ‘metaphysical dependency’ or ‘grounding’ have not devoted themselves to demonstrating or persuading us that the idea of a metaphysically necessary connexion is legitimate or intelligible. They have presupposed it, deploying the idea in the service of articulating the notions of ‘metaphysical dependency’ and ‘grounding’. Whilst ‘metaphysical dependency’ might not be strictly definable, it is conceived as belonging to a family of ideas and notions, which include ‘metaphysical necessity’ and ‘essence’, to which the notions of ‘metaphysical dependency’ and ‘grounding’ may be informatively related. Proponents of ‘metaphysical dependency’ and ‘grounding’ have felt entitled to so proceed, describing this allegedly virtuous circle of notions, because of where they think they find themselves in history. They consider themselves to come in the latter stage of a metaphysical revolution which Kripke began in the 1960s.

The first stage of this revolution was the project of rehabilitating the traditional notions of necessity and possibility. Rosen, for example, tells us that this is ‘a project now more or less complete, and whose value is beyond dispute’ (2010: 134). The second stage is now to complete that work by doing for ‘metaphysical dependence’ what Kripke (and others) did for ‘metaphysical necessity’ and ‘essence’. What did Kripke *et al* do for the latter notions? According to Rosen, what they established was that we have ‘tolerably clear

Armstrong’s states of affairs and Lewis would have rejected the former for the same reasons as the latter.

intuitions' about whether, for example, this or that lectern could have been made of ice, because of Kripke *et al* we now recognise that we have 'moderately effective strategies' for extending our modal knowledge by means of 'argument and analogy,' and that this is enough to set the notions of metaphysical necessity and essence upon a theoretically secure footing (Rosen 2010: 134). With the achievements of Kripke *et al* behind us, Rosen declares, now is the time to move to the second stage and to set 'grounding' on a similarly secure footing.

What would Lewis have said to this? He would have been unwilling to grant that Kripke *et al* had achieved so much. For Lewis, *contra* Rosen, the value of their achievements was quite within the bounds of dispute and Lewis did dispute it. Because Lewis would have held the first stage of the metaphysical revolution neither to have been completed nor in principle capable of completion, Lewis would have denied that now is the time to move to the second stage of the revolution. And he also would have denied that that time will ever come.

Lewis is frequently recalled as the *Übermensch* of speculative metaphysics because of his doctrine that possible worlds are existent *cosmoi*—in this respect he is often viewed as an inspiration for the surge of metaphysics in the 21st century. But this overlooks the fact that Lewis was a metaphysically circumspect philosopher too. This becomes evident when we turn to Lewis's criticism of Kripke's claim to have set 'metaphysical necessity' and 'essence' on a sure theoretical footing. In *Naming and Necessity* (1972), Kripke had argued that misgivings about the intelligibility of *de re* modality can be refuted by pointing out that the distinction between essential and accidental properties is perfectly intuitive and that we are more certain of the claims we find intuitive than the soundness and validity of any philosophical argument brought against them.²⁶ What was key for Lewis—what he held Kripke to have overlooked—is that our intuitions about whether this or that lectern could have been made from ice or whether Kripke could have come from a different sperm and egg are not constant at all. In *On the Plurality of Worlds* (1986) Lewis observed, 'Attend to the variety of what we say about modality and counterfactuals *de re*, and I think you will find abundant evidence that we do not have settled answers, fixed once and for all' (1986a: 252). Rather, he explained, in different contexts ordinary speakers offer different answers,

²⁶ See Kripke 1981: 41-2 and Soames 2003: 350-3.

depending upon which features of a thing are conversationally salient. Sometimes it's right to say that the lectern could have been made from ice, sometimes it isn't. Suppose we are interested in the design of the wooden lectern rather than its constitution. Then we may vary its constitution in our counterfactual speculations but hold fixed its design—so it could have been made from ice. But if our interest is its constitution, then we may vary its design but hold fixed its constitution—so it couldn't have been made from ice.²⁷ Lewis labelled this the 'inconstancy' of modal discourse.²⁸ Indeed, he continued, in the absence of a context to guide us, questions about whether this or that lectern could have been made from ice *etc.* have no determinate answers.

Lewis did not dispute Kripke's claim that the distinction between essential and accidental properties has 'intuitive content' which means something to the 'ordinary man' (Kripke 1980: 41). Lewis granted that, at least in some contexts, ordinary speakers, not only men, may readily agree upon where to draw the boundary between essential and accidental properties. But Lewis also saw that more is needed to set 'essentialism' upon a sure intellectual footing. Essentialism requires that a thing's essential properties are essential to it independently of how it is described. But, Lewis reflected, we describe the same things differently in different contexts and when we do so, we draw the boundary between essential and accidental properties differently—that's the inconstancy of modal discourse. Because of inconstancy, our ordinary ways of thinking and talking about how things might have been just don't provide support for essentialism. Since Kripke sought to establish the legitimacy of essentialism based on nothing more than an appeal to ordinary usage, Lewis concluded that Kripke's defence of essentialism was simply lacking. And there is no reason

²⁷ Strawson also argued there are some contexts in which it makes sense to maintain that the Old Bodleian could have been made from stone from a different quarry (1979: 187). Similarly, we argue, there are contexts in which it makes sense to say the original Noguchi table could have been made from different materials (MacBride and Janssen-Lauret 2015: 299).

²⁸ Lewis's appreciation of the 'inconstancy' of modal discourse is owed to Quine (see, for example, 1960: 199). Lewis initially presented his counterpart theory in his 'Counterpart Theory and Quantified Modal Logic' (1968) but Lewis's first explicit recognition of inconstancy appears in 'Counterparts of Persons and their Bodies' (1971: 203). See MacBride and Janssen-Lauret 2015: 298-300 and Beebe and MacBride 2015: 221-7 for further discussion of the relationship between Quine, Lewis and Kripke on inconstancy.

to think that the situation will ever change—no reason to suppose that the inconstancy of modal discourse will ever be resolved in favour of constancy.

In fact Lewis went further and supplied an ‘error theory’ that explains the spurious credibility of essentialism. By the very act of deciding to defend the view, for example, that Kripke could not have come from a different sperm and egg you ‘create a context’ in which that is the correct thing to say (Lewis 1986a: 251-2). So no wonder, Lewis would have said, that Rosen and his colleagues find themselves having ‘tolerably clear intuitions’ about essentialism (Rosen 2010: 234). From reading and re-reading *Naming and Necessity* over the years, teaching from it, spending time together in the seminar room discussing it, they create a context in which it’s correct to say that the lectern could not have been made from ice and Kripke could not have come from a different sperm and egg. But it makes just as much sense to institute a context in which it’s no less correct to say that constitution or origins is not essential.

Famously Lewis had a distinctive proposal of his own for accommodating the inconstancy, in terms of counterpart theory (1968, 1986a: 254-5). According to counterpart theory, something is essentially thus-and-so if all and only its counterparts, distinct things from other possible worlds but relevantly similar, are thus-and-so. But what counts as a counterpart, *i.e.* relevantly similar, depends upon which counterpart relation we have in mind. In different contexts our interests make salient different counterpart relations. So two things may be counterparts in one context but not another—a given lectern may have icy counterparts in one context but not another. The upshot is that it makes sense to describe something as having an essential property but only relative to a contextually variable choice of counterpart relation.²⁹ Of course Kripke had his well-known ‘Humphrey’ objection to counterpart theory: Kripke firmly held the intuition that what’s *de re* possible for something, say Humphrey, is what’s possible for *him*, not a counterpart of Humphrey; Lewis replied, unmoved, that what’s possible for him is thanks to what happens to *his* counterparts.³⁰ But

²⁹ In his 2003 and 2015, Lewis employs counterpart theory to show how the notions of truthmaker and states of affairs can be simulated without commitment to prohibited necessary connexions. MacBride (2005: 127-40) argues that whilst Lewis’s ‘virtual’ theory of truthmakers and states of affairs allows Lewis to talk as if he believed in them, nonetheless Lewis is committed to denying the explanatory potential of truthmakers and states of affairs robustly conceived.

³⁰ See Kripke 1981: 45 and Lewis 1986a: 195-6.

the correctness of Lewis's observation that the inconstancy of modal predications spells trouble for the notions of 'metaphysical necessity' and 'essence' that Kripke sought to vindicate is quite independent of whether counterpart theory is the best way to accommodate inconstancy. For now the significant and separate point is that Lewis showed that the notions of 'metaphysical necessity' and 'essentialism' remain to be set upon a sure footing. Hence, we conclude, Lewis would have denied that proponents of 'metaphysical dependency' or 'grounding' can now legitimately take 'metaphysical necessity' and 'essence' for granted as part of a virtuous circle whereby 'metaphysical dependency' and 'grounding' are introduced or illuminated.

5. Conclusion

Since his early days in UCLA Lewis had been haunted by the possibility that analytic philosophy should succumb to what he described as 'a chaos of new beginnings'. For this reason when he set about writing his book manuscript *Confirmation Theory* in 1969, Lewis concentrated upon Carnap's approach to confirmation theory, because, he wrote, it appropriated what was good in competing approaches rather than ripping up the rule book and starting again (1969, preface).³¹ But by the time Lewis was installed in Princeton he'd come to judge 'a chaos of new beginnings' not a threat but the reality, 'Let me tell you of an unpopular idea of my own [...] Philosophers tend to be too open-minded to persevere on programs that seem to have promise of success and philosophy *is* a chaos of new beginnings' (Lewis to Kissling, 5th February 1973, Lewis 2020b: 234). And Lewis's judgement didn't subsequently shift, writing ten years later 'Compare the sorry state of philosophy, we're always eager to listen to someone who offers to revolutionise philosophy, with the result that one proposal after another goes out of fashion without very thorough examination--only to be revived another year. We could scarcely tell the natural scientists that they'd be better off if they followed our example!' (Lewis to Ziolkowski, 24th May 1983, Lewis 2020b: 190). We have argued that Lewis would have seen the introduction of

³¹ Lewis sent a draft of the manuscript of *Confirmation Theory* to Harvard University Press in 1969. The Press expressed interest but after moving to Princeton Lewis never returned to complete the manuscript. Along with other posthumous writings, *Confirmation Theory* appears in Lewis (forthcoming). For further biographical discussion of the context in which Lewis wrote this manuscript, see Janssen-Lauret and MacBride (forthcoming).

‘metaphysical dependence’, ‘grounding’ *etc.* as another unwelcome beginning, one only adding to the chaos—unwelcome, first of all, because supervenience and conceptual analysis and structuralism about set theory still have the promise of success.³²

We have also argued that Lewis would have found the introduction of ‘metaphysical dependency’, ‘grounding’ *etc.* to be unwelcome for a second reason, that these notions conflict with his Humean prohibition on necessary connexions and his antipathy towards metaphysical necessity and essentialism. Rosen has described recent developments as the ‘the recrudescence of premodern metaphysics in postmodern philosophy’ (2015: 189). The word ‘recrudescence’ has two meanings. One meaning, which Rosen clearly intended, is, ‘A revival or rediscovery of something good or valuable’. But the other meaning of the word, its more usual one, is, ‘The action or fact of breaking out afresh; a recurrence of a disease or medical condition, or of an undesirable state of things, bad feelings, etc., esp. after a period of quiescence or remission’ (OED). We have argued that Lewis would have conceived of the re-emergence of metaphysical dependency and grounding as a recrudescence in the latter sense. Lewis conceived of J.S. Mill, the great empiricist, as one of his historical ancestors (Lewis 1991b). It’s fitting that Mill, in his account of the historical origins and development of positivism (1865: 24), should also have lamented ‘The recrudescence of a metaphysical Paganism’ amongst the philosophers of Alexandria.³³

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³² In both published works and correspondence, Lewis showed himself willing to swim against the tide of philosophical fashion—for example, in his resisting fashionable concerns about conceptual analysis whilst continuing to favour certain doctrines of 1950’s philosophy of science. In ‘Reduction of Mind’ Lewis dismissed ‘arbiters of fashion’ who proclaim that conceptual analysis is ‘out of date’ and described himself as ‘Like any up-to-date philosopher of 1955’ in thinking that ‘water’ is a cluster concept (1994: 298, 313). In correspondence, Philip Kitcher asked Lewis whether he still endorsed the ‘unity of science hypothesis’, famously advanced by Oppenheim and Putnam (1958), because of the recent fashion amongst philosophy of science to be sceptical of it. Lewis wrote back, ‘So am I part of this unanimous retreat from unity of science? I’d say not, though it’s true that I’m not happy with every word of O & P!’ (Lewis to Kitcher, 2nd January 1998, Lewis 2020b: 190).

³³ An earlier version of this paper was given at the David Lewis conference at the University of Manchester. We are grateful to the audience for their comments and especially thank John Bigelow, Chris Daly, Jane Heal, Frank Jackson, Thomas Uebel and Alan Weir for subsequent discussion. Research for this paper was supported by the AHRC grant ‘Age of Metaphysical Revolution’, AH/N004000/1.

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