ORIGINAL ARTICLE

Madhyamaka and Ontic Structural Realism

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Abstract

I'll argue that one particular argument of Nāgārjuna's against causation in the Mūlamadhyamakakārikā deserves careful consideration from the perspective of contemporary western metaphysics. To show why this is the case, I'll offer an interpretation of the key passages which differs from at least one popular reading. I'll then aim to show that a whole swathe of metaphysical views about causation are problematic in light of Nāgārjuna's argument, so interpreted. I'll conclude, however, that one contemporary view in metaphysics has the means to respond to this argument: Ontic Structural Realism.

Keywords Ontic Structural Realism · Causation · Metaphysics · Mūlamadhyamakakārikā

1 Two theories of modal structure

Let's begin by considering two theories about the world.

The first theory is *Ontic Structural Realism* (OSR), the view that 'there are objects [...] but they have been purged of their intrinsic natures, identity, and individuality, and they are not metaphysically fundamental'. Instead, 'the world is structure and relations' (Ladyman and Ross 2007, 131–154). Which relations exactly? One motivation of OSR stems from an attempt to emphasise the reality of the relations picked out by scientific generalisations, especially those of fundamental physics, such as laws of nature and symmetries. Other motivations stem from an attempt to make sense of the apparent loss of individuality of related entities, such as entangled particles or spacetime points. At the very least, however, it is agreed that the relations that take ontological priority, and the structure of relations which they form, are understood to be *modal* in their implications, e.g. supporting counterfactual inferences and dependencies:

> [I]ndividual things are locally focused abstractions from modal structure. By modal structure we mean the relationships among phenomena (... properties,

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events, and processes) that pertain to necessity, possibility, potentiality, and probability' (ibid.).

OSR is a niche view, but not without its defenders (French and Ladyman, 2003; French, 2014; Ladyman, 1998; Ladyman and Ross, 2007; Ladyman, 2017; Ross and Ladyman, 2010). Here I will also try to develop some support for the view via a rather different route than the usual attention to modern physics.

A second theory, to be compared against the first, is the core tenet of Buddhism known as *Dependent Origination*:

> This existing, that exists;
> This arises, that arises;
> This not existing, that does not exist;
> This ceasing , that ceases. (Majjhima Nikāya iii 63)

According to Dependent Origination, everything is causally dependent on something else.[1] Consequently, the Buddhist world view is one that, like OSR, endorses a system of dependencies.

There are (at least!) two crucial differences between OSR and Dependent Origination. First, OSR is not committed to the dependencies being causal. Causal dependencies are often taken to be asymmetrical (effects aren't causes of their causes) and organised in one time direction (effects do not precede their causes). But the dependencies endorsed by OSR theorists need not be like this; instead, they are what we might refer to more generally as 'causal-nomic' dependencies, i.e. dependencies among events that may or may not be causal, but are captured by some lawlike process.

Second, while a prioritisation of relations over their relata is characteristic of OSR, it is not clear from the tenet of Dependent Origination alone that the dependencies are metaphysically prior to the related events. Many of the Abhidharma schools (e.g. Sarvāstivāda) endorse the idea that there are entities with an 'intrinsic nature' (*svabhāva*), by virtue of which they are 'a really existing thing' (*dravya*). Yet, even these schools maintain the core tenet of Dependent Origination. This leads to the idea that the structure of dependency relations may co-exist alongside equally real events that bear those dependencies.

These points of contrast between the Buddhist and OSR systems of dependency are themselves importantly distinct. Arguably, a view according to which individuals are metaphysically less fundamental than the specifically *causal* dependencies between them still counts as an instance of OSR, albeit one which cannot avail itself so easily of some of the motivations from apparently acausal aspects of fundamental physics. In comparison, the idea that the individuals related by these dependency relations have an intrinsic nature is in direct conflict with OSR since, for the latter, the dependency relations among individuals are *by stipulation* ontologically and therefore explanatorily prior to them. Intrinsic natures would break this priority.

Nāgārjuna famously developed a series of arguments to problematise the joint endorsement of objects with an intrinsic nature and Dependent Origination. Granting

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[1] Siderits (2013, 443, fn.15) suggests that this passage should be read in the indicative mood. I take this to be a radical and unjustified departure from the received understanding. Even if a literal translation yields indicative conditionals, all sense of dependency is lost if we take the passage's meaning so literally.

that Dependent Origination is essential to their worldview, Nāgārjuna's argument can therefore seem to offer motivation for Buddhist views that are (unlike Sarvāstivāda) consistent with OSR. Moreover, it is arguable that Nāgārjuna's arguments are not in principle restricted to demonstrating the incompatibility only of specifically causal dependencies between individuals with intrinsic natures. Any causal-nomic dependency will, according to Nāgārjuna's arguments, be incompatible with individuals related by such dependencies having intrinsic natures. This suggests that we might productively bring ancient eastern philosophical reasoning to bear on a debate exemplary of western metaphysics: over the status of OSR.

The prospect might appear somewhat alarming. How can it be that recourse to ancient reasoning has resonance in today's philosophical climate? Shouldn't the subject of metaphysics have progressed enough that one-and-a-half-millenia-old arguments are no longer of dialectical relevance? As I will try to draw out towards the end, contemporary metaphysics has given rise to various criticisms of a number of metaphysical views about causal-nomic relations that seem to be concerned with much the same issue that Nāgārjuna was. However, it seems that at least in one particular passage of the Mūlamadhyamakakārikā (MMK), Nāgārjuna's argumentation against the existence of causal relations between entities with their own intrinsic natures can be understood as being *more general* than any in contemporary debate, and so able to show, in one fell swoop, why whole swathes of contemporary metaphysics are problematic.

So, although it may come as a surprise, Nāgārjuna still appears to have lessons for the modern western philosopher. I believe one potential reason Nāgārjuna's argument has gone relatively unnoticed in western debate is that at least one common interpretation of the relevant passages does not cast Nāgārjuna's argument in as serious a light as it should be.[2] Part of what follows, therefore, will be the development and defence of an interpretation that differs from this.

Before embarking, first a disclaimer, then a caveat. In what follows, I intend to take Nāgārjuna's arguments against causal dependencies entirely out of context. No doubt, if one took on board the general anti-realist sentiment which many believe the MMK aims to promote, one would not even entertain the (semi-)realist metaphysical frameworks I consider below. In chapter 1 alone, for example, Nāgārjuna attempts to argue that nothing can be causally dependent on something else while also asserting that everything is (this schema of damned-if-you-do-and-damned-if-you-don't is common throughout the MMK). These kinds of apparently contradictory conclusions can easily be read as a reductio on the whole project of 'serious metaphysics'. If this was really Nāgārjuna's aim, I will not be advocating for his radical conclusion.[3] My aim is only to appropriate a certain reading of one argument he provides against causal relationships in order to show that OSR is unique among western views of causal-nomological dependency in avoiding it. My central target, therefore, is the western

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[2] Perhaps the clearest attempt in recent western metaphysics to highlight Nāgārjuna's relevance is Westerhoff's *Nāgārjuna's Madhyamaka: A Philosophical Introduction* (2009). Westerhoff's other book *The Non-Existence of the Real World* (2020) is also explicitly an elaboration on Madhyamakan metaphysics (see the Preface).

[3] It is not uncontroversial that this was his aim. See Westerhoff (2016) for a discussion.

philosophical tradition of accounting for causal relationships, for which I consider Nāgārjuna's argument to be significantly probative.

Now the caveat. Saying exactly what Nāgārjuna intended in the MMK faces a number of interpretational hurdles. First, the texts come to us in Sanskrit, requiring translational as well as philosophical ingenuity to put into a modern language. Second, the kārikās of the MMK follow a form which was intended to merely assist its readers in recalling elaborate arguments that are, at best, only gestured towards in the text itself. Indeed, without further assistance, it's hard to even read the verses as presenting arguments per se, as opposed to mere bold assertions. Consequently, one cannot hope to learn anything from the MMK directly without an accompanying commentary, of which there are multiple, almost all written hundreds of years after Nāgārjuna's death and that are not entirely consistent with each other. Given these hurdles, one reaction might be to assume that Nāgārjuna's texts can be put towards the defence of just about any metaphysical doctrine with sufficient ingenuity.[4] Nevertheless, in what follows, I'll assume (as with most commentators) that Nāgārjuna had a critical agenda backed up by rational argument, and moreover that it is a respectable project to try and work out what those rational arguments amounted to. In developing my preferred interpretation of the key passage in the MMK below (specifically, verses 1.5–1.6), I have also drawn heavily on modern translations and commentaries of Garfield (1995); Siderits and Katsura (2013) and the introduction to Nāgārjuna's philosophy by Westerhoff (2009). As will become clear, however, my interpretation differs from these authors' own interpretations in certain ways.

The rest of the essay is organised as follows. In Section 2, I present the relevant portions of MMK text in which Nāgārjuna's provides a dilemma for cause-effect relations, and I give a schematic summary of it in terms of two apparently incompatible claims NAG1 and NAG2. In Section 3, I'll then explore how best to interpret the dilemma and argue that, while it is popular to interpret it as problematising the temporal order of causes and effects, it may be more plausible to interpret it as problematising their explanatory order. In Section 4, I'll then show why this latter interpretation is also compelling from a contemporary metaphysical perspective, and will set about considering strategies for responding to the dilemma, either by denying that the two relevant claims are in fact incompatible (Section 5), by denying that NAG1 is true (Section 6), or by denying that NAG2 is true (Section 7). In each case, I'll show that no reasonable objection has been found. For the last kind of response (rejecting NAG2), however, one strategy will have remained unconsidered. This is the strategy of endorsing OSR. In Section 8, I will show why OSR does provide a reasonable way to reject NAG2 and thereby avoid Nāgārjuna's dilemma. Section 9 concludes.

2 Nāgārjuna's dilemma for causation in verses 1.5–1.6

In the MMK, Nāgārjuna presented multiple arguments against the very possibility of causal relations understood under a variety of different conceptions. The opening verse makes his intended comprehensiveness clear.[5]

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[4] Witness, e.g. the controversy over the interpretation in Garfield (1994).

[5] All translations of the MMK are from Garfield (1995) unless specified otherwise.

1.1 Not from itself nor from another,
   Nor from both,
   Nor without cause,
   Does anything whatever, anywhere arise.

In what follows, I'll be exclusively concerned with the second iteration of the first line—causation 'from another'—understood to refer to cases in which cause and effect are not identical. Whatever one's thoughts about the existence of the remaining cases of causal relation, it is this iteration which surely commands the greatest interest in western philosophy of causation.[6] But Nāgārjuna's delineation also cuts along a further dimension. In verse 1.2, Nāgārjuna shows that he intends to critique multiple senses in which a cause is taken to be a 'condition' (*pratyaya*) for its effect.

1.2 There are four conditions: efficient condition;
   Percept-object condition; immediate condition;
   Dominant condition, just so.
   There is no fifth condition.

According to Siderits and Katsura (2013), an 'efficient condition' (or 'primary condition' in their translation) is a *producer* of its effect, such as the seed from which a sprout appears, and is objected to specifically in verse 1.7. A percept-object condition (or 'objective support') is an object of cognitive intention, objected to in verse 1.8. Immediate conditions ('proximate conditions') are those which immediately precede an effect and cedes its place to the effect. They are objected to in verse 1.9. A dominant condition is an object or event without which the effect could not occur and is objected to in verse 1.10.

Having distinguished the various forms of causal condition, I'll largely ignore these distinctions from hereon. It is clear that each sub-category of causal condition is supposed to exhibit causal dependency (this is explicit in the Siderits and Katsura 2013 translation of verse 1.5), and it is Nāgārjuna's issue with causal dependency in general which gives rise to the argument with which I will be concerned. This is an argument indicated by the verses that immediately precede those specific to the four sub-types of causal condition.

1.5 These give rise to those,
   So these are called conditions.
   As long as those do not come from these,
   Why are these not non-conditions?
1.6 For neither an existent nor a non-existent thing
   Is a condition appropriate.
   If a thing is non-existent, how could it have a condition?
   If a thing is already existent, what would a condition do? [what is the point of the condition? Siderits and Katsura (2013)]

In these two verses, Nāgārjuna appears to be first (in verse 1.5) defining causes as conditions, and then (verse 1.6) presenting a dilemma for the idea that any 'thing',

viz., an event with an intrinsic nature, could have a cause, so defined: if the event doesn't exist, then there is nothing for a potential cause to be a condition of, but if it does 'already' exist, then no further event can be a condition for it. For the sake of a more precise scrutiny of the details of this argument, it will be useful in what follows to treat Nāgārjuna's dilemma in terms of the following pair of inconsistent claims:

NAG1. A cause's conditionality for its effect must be prior to the effect's existence. (For if the cause is not prior to the effect, the effect can have no need for it as a condition.)

NAG2. A cause's conditionality for its effect cannot be prior to the existence of the effect. (For the conditionality of something is dependent on the prior existence of whatever it is a condition for.)

The term 'conditionality' here is being employed as a term of art. According to a well-accepted understanding, endorsed by Buddhists and many contemporary western philosophers, causes are partial objective explanations of their effects because they are conditions for their effects. Saying exactly *how* causes are conditions for their effects is a complicated issue.[7] However, we may bypass the issue of saying exactly what kind of way causes are conditions for their effects by stipulating that conditionality is that characteristic feature of a cause *by virtue of which it is the cause of its effects*.

NAG1 and NAG2 effectively invert the structure of the dilemma in verse 1.6, turning two jointly exhaustive and individually problematic alternatives (i.e. causes' priority and non-priority) into characteristics of causes *both* of which seem worth holding onto. In sum: the conditionality of a cause (that feature of it in virtue of which it is a cause of its effect) both requires the existence and the non-existence of the effect. Since the alternatives appear to be incompatible, an inconsistency arises. As a consequence, there is something deeply flawed in the very idea of causal relationships. Or so Nāgārjuna would have us believe.

3 Two interpretations of Nāgārjuna's dilemma

It is not uncommon among scholars to interpret Nāgārjuna's dilemma in temporal terms. So, for example, Siderits summarises the argument as follows (though see also Siderits and Katsura 2013, 23 and Westerhoff 2009, ch.5).

> Nāgārjuna asks when this productive power occurs. It cannot occur after the effect has arisen, since it would then be pointless. But neither can it occur before the effect has arisen, since there is then no trace of its productive activity. And between the time when the effect has arisen and the time when it has not yet arisen there is no third time, such as a time when the effect is undergoing production but is not yet fully produced. (The third option is presumably ruled out on the grounds that only partite entities could be said to undergo production over time.) Consequently there is no satisfactory account of how this productive power might work (Siderits 2013, 442).

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[7] In today's literature on causation, conditionality is often expressed in terms of some kind of (highly qualified) counterfactual or statistical dependency (Fenton-Glynn, 2011; Halpern and Pearl, 2001; Hitchcock, 2001; Kvart, 2004).

We can easily see how this interpretation maps onto NAG1 and NAG2, since the term 'prior' in either claim is straightforwardly interpreted as meaning *occuring earlier in time*. Certainly, the style of argument from 'the three times' seems to be repeated throughout the MMK, and it is clear from other verses that Nāgārjuna is interested in undermining certain intuitions about temporally extended dependencies (e.g. verses 10.8–10.12, 20.5–20.14).

Despite these points, I believe that there is an alternative interpretation of the dilemma that deserves consideration. The alternative is to read the relative claims of priority in NAG1 and NAG2 in terms of *partial objective explanation*. For the purposes of exposition, an ordering of partial objective explanation exists between two facts or states of affairs, with the first being 'explanatorily prior' to the second, if the first is a necessary component in a complete explanation for the second due to the objective way of the world and independently of whether or not anyone knows it (this form of explanation is therefore to be contrasted with the 'subjectivist' sense of an explanation as something performed or performable by someone, see Lewis (1986a)). A paradigm example of objective explanation is that between a cause and its effect: the existence of a cause is at least a partial objective explanation of the existence of its effect. Hence, causes are explanatorily prior to their effects (whether or not they are temporally prior). Indeed, it is this characteristic of causes that we are referring to as the cause's conditionality. So interpreted, NAG1 and NAG2 claim that a cause's conditionality is both a partial objective explanation for *and* partially objectively explained by the cause's effects.

Interpreting Nāgārjuna's dilemma in this 'explanatory' way has a number of benefits over the temporal interpretation. First, we know that some Buddhist schools targeted by Nāgārjuna's arguments (e.g. the Sarvāstivādins) were open to simultaneous, non-compositional causal relationships ('sahabhū-hetu'). One well-discussed example is that between a thought and the components of the thought (Westerhoff 2009, 120). But if simultaneous causation occurred even on some occasions, this would undermine the idea that a cause's conditionality could be problematised in general on the grounds that it must temporally precede its effects (as the temporal interpretation of NAG1 has it).

Second, there is, in fact, no word corresponding to 'prior' in the original Sanskrit. A more direct translation of 1.6 would go something like the following:

Neither for something that does not exist nor for something that exists
does a causal condition make sense,
For something that does not exist, what is it that has a causal condition?
And for something that exists, what need is there of a causal condition?[8]

It seems reasonable to expand on this kind of rather literal and direct translation by including some explicit argumentative claims about the (im)possible explanatory asymmetries between causal relata. The introduction of talk in terms of 'priority' can, I claim, be used for this purpose. But it is also liable to misdirect translators into thinking that a temporal form of argument is being invoked by Nāgārjuna when in fact it is not.

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[8] The translation was provided in private correspondence with Rupert Gethin.

Third, it is clear that temporal order can't be all that was bothering Nāgārjuna about causal relations. An observation that he makes repeatedly in the MMK, and with different kinds of example, is that causes *do not contain their effects* (1.3, 1.11, 10.13, 20.3). Why is it important to observe that causes don't contain their effects? At least one reason is surely that, *were* causes to contain their effect, then we would have a response to the incoherence of causal relationships implied by NAG1 and NAG2, understood, that is, in terms of explanatory priority.[9] That's because containment relations are *intrinsic to the containing relatum*: both relata and the relation itself are subsumed within the intrinsic nature of the containing relatum. We may say truly, in some cases at least, that one thing explains another because the former contains the latter. But such an explanation is not dependent on the existence of any substantial and extrinsic relationship between the containing and contained relata. Indeed, any such relation would be explanatorily redundant, since the containing relatum is *alone* sufficient to objectively explain the existence of what it contains, and thereby also the relationship of containment. Given the metaphysically insubstantial nature of the containment relation it would seem unreasonable to place any objective explanatory weight on it. An object explains what it contains because it contains them, but the containment is not something *in addition to* the containing object itself. It is an 'ontological free lunch' and shouldn't bear the burden of any explanatory requirements.

If causal relations were like this (i.e. intrinsic to the cause), it would be unreasonable to assert NAG2. We could say truly of the cause that it explains the effect because of its conditionality, but its conditionality (what makes it the cause of its effect) would amount to nothing more than the fact that it contains the effect.[10] It would therefore be misleading to infer that the cause's conditionality involved some additional relationship extrinsic to the cause, for the cause would alone be sufficient to objectively explain the effect. Given the metaphysical insignificance of conditionality, conceived as intrinsic to the cause, it would thereby seem unreasonable to place any objective explanatory weight on it. As with the containment relation, it would be an 'ontological free lunch' and shouldn't bear the burden of any explanatory requirements.

Granting that causal relationships are *not* intrinsic to the cause (this is explicit in Siderits and Katsura 2013, verse 2), we must concede that the cause cannot alone fully explain its effects. By pointing out that causal dependency is not a containment relation, Nāgārjuna effectively blocks this suggestion as a means of response to his argument. While there may be other passages in the MMK that do deserve to be understood as arguments against causal relationships based on temporal order, Nāgārjuna's emphasis on the failure of causes to contain their effects indicates that this cannot have been his only source of concern. If causes did contain their effects, then their simultaneity would be trivial. Conversely, if there is a conclusive argument against simultaneous causal relationships, then even discussing whether causes might contain their effects would be redundant. Interpreting NAG1 and NAG2 in explanatory terms therefore seems to be a promising way to make sense of why Nāgārjuna's rejection of causes containing

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[9] That's not to say, however, that all problems would disappear. As is typical of Nāgārjuna's argumentation, if causation were containment new problems would arise. I focus here on the argument against causation by defending the premise that there is no containment rather than an argument expressed as a dilemma between containment and non-containment.

[10] At least, this is under the assumption that the causal relation *just is* the containment relation.

their effects (understood as something non-identical with the cause) is dialectically important.

With the above points in mind, I think it's clear that the explanatory interpretation of Nāgārjuna's argument deserves to be considered as a serious contender to the often-presented temporal interpretation of verses 1.5–1.6. Moreover, as I will now show, it is a more powerful argument against causation.

4 Presenting Nāgārjuna's dilemma in light of contemporary metaphysics

The popularity of the 'temporal' interpretation of Nāgārjuna's dilemma in verses 1.5–1.6 justifies the relative ignorance within contemporary western metaphysics of it. That's because, interpreted this way, Nāgārjuna's argument is unlikely to have much impact on the modern debate over causation. Firstly, many philosophers past and present argue that simultaneous causation is possible (Friend, 2019; Huemer and Kovitz, 2003; Kant, 1998; Tooley, 1987), even necessary (Mumford and Anjum, 2011). For these authors, causes can exist alongside their effects. Second, in contemporary analytic metaphysics, as in the Buddhist tradition, there is a sense that issues arising from the dependence of a causal relationship on relata existing at different times arise only for *presentist* views about time, i.e. views according to which only what exists presently exists (see, e.g. Bigelow 1996). Yet many contemporary metaphysical views of causation are consistent with, and often defended alongside *eternalism* (endorsed also by the Sarvāstivāda school), the view that all times (past, present, and future) exist. Granting eternalism, concerns about the co-existence of cause and effect subside. Causes and effects can both exist, so that the cause can be a condition for the effect, without the effect having to 'already exist' in the sense of existing at the same time as the effect.

Nāgārjuna's dilemma would, I think, have been more widely known and taken seriously if the explanatory interpretation were default. To see why, let's begin by providing a rationale for believing NAG1 and NAG2.

The rationale for NAG1, so interpreted, stems from the fact that causes are partial objective explanations for their effects, and they are so (by stipulation) as a consequence of their conditionality. Of course, a cause's conditionality cannot be a partial objective explanation in the same way that the cause itself is—the conditionality of the cause isn't itself a cause. But it is nevertheless a plausible principle that *whatever partially objectively explains why X is a partial objective explanation for Y is also a partial objective explanation of Y* (Lange, 2018; Salmon, 1967). Assuming that's right, NAG1 follows, as long as it is understood as a claim about *explanatory* priority rather than temporal priority.

The rationale for NAG 2, so interpreted, stems from an observation about the way in which causal relationships have typically been understood. Most views, within recent contemporary Western metaphysics at least, have taken a cause's conditionality to be 'backed' (itself a kind of constitutive explanation) by some kind of *relationship*: the cause is a cause of its effect because of the way the cause and the effect are related. But once that is granted, almost any view of this backing relationship will return the fact

that the effect is partially explanatorily prior to it. For example, nominalists believe that properties are classes of objects and dyadic relations are classes of object-pairs. Under such a view, it is hard to make sense of there being such a thing as the 'instance' of a relation—what I am calling a relation*ship*—beyond the pair itself. And granting that, it seems inevitable that the existence of each relatum partly objectively explains the relationship.

But even granting a more realist view of properties (e.g. one according to which properties are universals) does not undermine this explanatory point. For example, Lowe (2016) suggests that even if there are relational truths, there are no relational truthmakers because the truthmakers for all relational truths can be identified with the monadic properties (e.g. modes of universals) of their relata. Tugby (2022) rightly criticises Lowe's tendency to express his position as one of anti-realism about relations, since Lowe is not an error-theorist about relations. But the important point behind Lowe's view is that relations are *derivative* of, i.e. partly objectively explained by, monadic properties of individuals. Humeans have almost as sparse an ontology of relations, denying all but the extrinsic relations of physical space in their fundamental ontology (Lewis, 1986b, 1994); everything else is a 'local matter of fact' (whether that involves the instantiation of a universal, trope, mode or not). Somehow other relationships must be built from these basic materials, and hence are likewise derivative. For instance, Ducasse (1926) understood two events to be causally related (roughly) if they are spatiotemporally proximate, and Hume (1978) himself understood events to be causally related only so long as they were instances of a regularity of resembling event pairs which exhibited proximity (contiguity).

Now, it might be pointed out that even if causal relationships are derivative of the monadic property-instantiation of individuals, this doesn't entail that causal relationships are partly objectively explained by their *effects*, specifically. However, it's hard to see what else causal relationships are supposed to be derived from if not the events which they relate. For example, under either Ducasse or Hume's view, it is the very events that are related by their proximity (among other characteristics) that are the cause and the effect of the analysed causal relationships. Hence, the effects themselves are essentially involved in the objective explanation of the causal relationship.

Plausibly, the requirement of an explanatorily prior effect also extends beyond the reductive views just considered. Tooley (1987) suggested that causal relationships must involve the instantiation of an irreducible and extrinsic dyadic universal in order to account for a number of our causal intuitions about the existence of truthmakers for facts about causation when other facts (e.g. about which monadic properties, statistical relations, and laws are instantiated) leave the causal facts undetermined.[11] Tooley therefore rejects the idea that all relationships are derived from either monadic property-instances of individuals or spatiotemporal relationships. Nevertheless, even positing the involvement of such an irreducible relation in our ontology won't itself block the idea that the relata of causal relationships are part of an objective explanation for them. Indeed, according to Tooley's view, causal relationships are conceived as a metaphysical combination of three constituents (the dyadic universal of causation, the

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11   Tooley did not, however, think the instantiation of this universal was sufficient for causal relationships.

cause, and the effect), and it is at least natural to take constituents to be explanatorily prior to the constituted. At least, Tooley says nothing to undermine this assumption.

We therefore have the makings of a significant argument against causal relations in terms of an apparent inconsistency in the explanatory priority between two claims, NAG1 and NAG2. The next four sections concern whether this is in fact a good argument against causal relationships, by considering, in Section 5, whether NAG1 and NAG2 are genuinely inconsistent; in Section 6, whether NAG1 is true; and in Section 7 and Section 8, whether NAG2 is true. Whereas I'll argue for an affirmative answer to the first two of these questions, I'll argue that a negative answer is available to the last question, so long as we endorse OSR.

5 In defence of NAG1 and NAG2's incompatibility

NAG1 and NAG2 don't alone comprise an argument against causal relationships, of course. Only by granting their inconsistency and inferring the inconsistency is a mark against the coherency of causal relationships, do we have the basis of a complete argument. These additional steps offer points for potential criticism of the argument.

Are NAG1 and NAG2 inconsistent? One reason we might not think so is if we thought that explanatory circles were tolerable and specifically, that it is consistent for a partial objective explanation for a cause's conditionality to be the existence of the cause's effect *and* for a partial objective explanation for an effect to be its cause's conditionality for it. Although this idea seems logically coherent, I will, for the sake of what follows, assume that it is false. In defence of this blanket rejection, it is worth pointing out that explanatory circles are widely thought to be unacceptable and that showing some view to be committed to them is a serious mark against it. One example where this attitude has been made particularly salient is in the debate over whether the view of Humean Supervenience, according to which laws of nature are grounded in, and hence partially objectively explained by, their instances. This view can, and has been repeatedly problematised due to the fact that laws are supposed to be partial objective explainers of their instances, thereby generating an explanatory circle (Armstrong, 1983; Hicks and van Elswyk, 2015; Lange, 2013, 2018; Loewer, 2012; Marshall, 2015; Maudlin, 2007; Miller, 2015; Skow, 2016). Although there is disagreement within this debate over whether Humean Supervenience really is undermined in this way, nobody within the debate questions that *if* the view were committed to explanatory circles, that this would be an undermining commitment.

What is often brought into question within the debate just cited is whether or not the fact that the worlds' local matters of fact partially objectively explain the laws and the fact that laws partially objectively explain their instances together generate a circularity at all. One reason to think they do not is that the two instances of partial objective explanation are distinct. For example, Loewer (2012) suggests that whereas laws' instances metaphysically explain (e.g. ground or constitute) the laws, the laws scientifically explain (e.g. by covering causal relationships) their instances. If the nature of these two senses of explanation are not the same, it is certainly harder to establish that there is any problematic circularity going on.

Something similar seems to be going on with the explanatory priorities invoked in NAG1 and NAG2 (under the explanatory interpretation). The cause explains its effect through causal explanation, so that the relevance of the cause's conditionality to why the cause explains the effect concerns the nature of the causal relation. By contrast, the effect explains the conditionality of the cause insofar as it is constitutive of it. If it can be reasonably shown that cause-concerning partial objective explanations and constitutive partial objective explanations are able to go in opposing directions without generating any problematic circularity, then NAG1 and NAG2 will be consistent after all.

It is, however, implausible that consistency can be established merely by showing that distinct forms of partial objective explanation are involved. And indeed, there is reason to think the circularity remains. As Lange (2013) showed (and later re-emphasised; Lange 2018) in an analogous counterargument to Loewer, these forms of explanation should satisfy the following 'transitivity principle'.

> TRANSITIVITY: If X partially objectively causally explains Y, and Z partially objectively constitutively explains X, then Z partially objectively causally explains Y.

As Lange emphasises, rules of inference like TRANSITIVITY are supported by scientific practice and implicitly endorsed in philosophical argument. But if it is granted, then the circularity between NAG1 and NAG2 remains regardless of the fact that distinct forms of explanation are involved.[12]

From hereon, I'll assume that the explanatory circularity in NAG1 and NAG2 cannot be avoided merely through an appeal to different types of objective explanation (shortly we'll look at a slightly different response also inspired by the debate surrounding Humeanism). It's therefore hard to see how the circle can be broken. I'll also assume that the circularity is justification for thinking NAG1 and NAG2 are inconsistent. Perhaps explanatory circles can be tolerated in some cases, but not in the case of a cause's conditionality and the existence of the effect.[13]

6 In defence of NAG1

Once we grant that NAG1 and NAG2 are indeed inconsistent, and that the inconsistency is a symptom of the incoherency of some embedded concept, then the obvious place to turn in an effort to retain the coherence of causal relationships is to undermine one of the jointly inconsistent claims. So what of NAG1? To deny this would be to claim that, despite appearances, whatever it is about causes that makes them causes of their

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[12] According to our interpretation of NAG1, the fact that some event c is a cause of another event e requires that c's conditionality be a partial objective *causal* explanation of the existence of e. While according to our interpretation of NAG2, the existence of e is a partial objective *constitutive* explanation of the conditionality of c. By TRANSITIVITY, this means that the existence of e is a partial objective causal explanation of itself.

[13] A rather different response to the argument presented by NAG1 and NAG2 is that the inconsistency should be tolerated. This seems to be the idea of Priest (2002). For the present purposes, I assume that this is not a reasonable strategy (cf. Westerhoff 2009, 42, fn.101 and 90).

effects is not itself a partial objective explanation of the effect. As it turns out, this claim has been made, again within the literature defending Humeanism, with regard to nomological explanations of causal relationships, where laws' instantiation plays the putative backing role. In this context, it has been argued that laws explain why causes explain their effects, but do not also explain their effects (Hicks, 2021; Scriven, 1962; Skow, 2016).

Hicks gives a few reasons why we shouldn't think laws are the right kind of thing to explain the effects of the causal relationships they cover. First, they do not exhibit the kind of features which seem typical of explainers: they aren't located at a restricted region or time, as an event is, nor can they be controlled via intervention. Second, accepting that laws do explain the effects of relationships they cover is tantamount to endorsing a heterogeneity among forms of explanatory dependency (note the contrast with the earlier considered Humean response). If we seek unification among explanations, then endorsing a dependency on laws as well as on causes seems problematic. Finally, if laws are included among the explanans of a full explanation of an effect (i.e. alongside the effect's causes), as opposed to being merely an inference rule employed in the explanation of the effect from the cause, then it becomes difficult to identify nomological explanation as being of the same form as mathematical and metaphysical explanations, where the latter two forms can be identified by restrictions on worlds, or the employment of certain inference rules. These observations support the idea that, while causes explain their effects, laws that explain why causes explain their effects (if indeed they do) do not themselves explain their effects. Hence, those, like the Humean, who endorse the idea that the conditionality of causes is a matter of their involvement in laws, have a reason for doubting NAG1.

But how persuasive is this? To start with, it's worth observing that if one does not endorse laws' involvement in backing cause's conditionality for their effects, then Hicks's suggestion will not have been at all relevant. A defender of Ducasse's view of causation, for example, can presumably not provide the same reasons for thinking that the proximity of the cause and effect is not an explanation of the effect, since proximity is clearly something located in space and time, which can be intervened on, retains a reasonable homogeneity of explanation and does not lend itself to being considered a distinct form of modal restriction. Much the same seems to go for Tooley's dyadic causal universal.

Yet even among those who take each cause's conditionality to be backed by laws, it's clear that Hicks's strategy (denying that laws explain effects) comes into conflict with the principle mentioned earlier in motivating NAG2 (a more general form of the TRANSITIVITY principle), that whatever partially objectively explains why X is a partial objective explanation for Y is also a partial objective explanation of Y. Of course, the arguments from Hicks suggest that the principle is too strong. Are they correct? In the case where an explanation Z of an explanatory relationship between X and Y is akin to an inference rule, such as a law of logic, it does seem improper to give it the status of an explainer of Y. For example, we can infer p from $p \vee q$ and $\neg q$ only by assuming the law of the excluded middle, a law of inference. It therefore appears correct to say that the law of the excluded middle partly explains why—or 'backs'— $p \vee q$ and $\neg q$ explaining p. But it would certainly be odd to say that the law of the excluded middle is part of the explanation for q (if q is true). The reason, I think, is

that we don't naturally think of inference rules as constituents of reality, like an event, fact, or state of affairs.[14] As such, the inference rules (like laws of logic) aren't the sort of thing that can themselves explain constituents of reality like *p* can. But Hicks would have us think of laws *of nature* as inference rules (see especially 2021, 539). If he is right, then NAG2 can be denied by those who endorse a nomological explanation of causes' conditionality.

The problem is, however, that laws aren't best conceived as mere inference rules. For the Humean, a law is a regularity, something *in nature*.[15] For others, laws are second-order relations among universals, or primitive entities. In none of these cases are they mere rules of inference.[16] But if laws are something *in* nature, then it's hard to see how intuitions about the explanatory reach of genuine inference rules is supposed to carry over. Laws of logic may not be easily conceived as the (partial) explanans of worldly ongoings, because they are not in the world. But laws (at least for many) are in the world. Why, then, shouldn't they also be explanans?

Admittedly, laws aren't much like causes. They are not restricted in spacetime, nor can they be intervened on. Hence, there would be heterogeneity in types of explainers and explanatory dependencies if we allowed them to explain effects alongside causes. Hicks thinks that's a bad thing. But, of course, if you're of the opinion that causes can *only* explain their effects if their conditionality for the effect is backed by the instantiation of a law (or some other kind of substantive relationship), then this heterogeneity will seem perfectly reasonable: effects depend causally on their causes, and are metaphysically entailed granting also the laws, while effects depend nomically on the laws, and are metaphysically entailed granting also a cause. All things considered, I think we have not uncovered sufficient reason to believe that each causes' conditionality for its effects is not explanatorily prior to their effects, even if the conditionality is a matter of the cause's conditionality being backed by the instantiation of a law of nature.

7 In defence of NAG2

If NAG1 must remain, the only way left out of the problematic circle of explanatory claims is to deny NAG2. For NAG2 to be false, it must be that the existence of the effect of a causal relationship need not be explanatorily prior to whatever it is about the cause that makes it the cause of the effect. But why think otherwise? As we have seen (Section 4), a number of more traditional views identify a 'backing' relationship between the cause and its effect as constitutive of the conditionality of the cause, including nominalism, Humeanism, and Tooley's realist view of causation. All these views seem to support NAG2.

There are, however, other approaches to causation available. We have already considered one: that causes *contain* their effects. Such a view would allow causes to explain

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[14] This reason might be rejected, of course. But insofar as one does reject it, it seems to me that the intuition that the law doesn't help explain *q* also subsides.

[15] Hicks reveals his intuition for this interpretation when he observes that the DN model of explanation problematically treats law-based explanation as a relationship between statements, 'not things' (ibid. p.538).

[16] There are, of course, those who maintain that laws are just statements. For such views, perhaps Hicks's reasoning would indeed be valid.

their effects without the need for any substantial backing relation. But Nāgārjuna is surely right to deny the plausibility of such containment. As he remarks, the fire is not contained in the fuel, nor is a tree contained in the seed. More generally, if effects were contained in their causes, then there would be no temporal extension to causal relationships whatsoever: once any cause had finished, so must everything else which follows causally from it. This is surely absurd.

There is a different view, not so clearly absurd, which also asserts the idea that the cause is all that is required to explain the effect, without the need for any backing relation. This is the recently posed 'grounding view' of powers. According to the view, those intrinsic dispositional properties present in causes that are sufficient to provide the cause's contribution to their effects are grounded in the qualitative universals (or tropes) of the cause (Coates, 2019; Kimpton-Nye, 2021; Tugby, 2012, 2022).[17] If this view is correct, there would be a way to confer conditionality upon a cause (viz., by way of a qualitative universal) without having to invoke the effect, let alone any substantial relationship with the effect. Hence, this grounding view is consistent with a rejection of NAG2.

The grounding view just described is in its relative infancy, but seems to face the following insurmountable challenge. Let a 'total cause' be that combination of causal conditions (the 'assemblage', Siderits and Katsura 2013) that makes the effect more probable than any other combination of present causal conditions without including the effect itself. Most naturally, the total cause might be considered to be everything that occurs immediately before or at some time in the backwards light cone of the effect (think, e.g., of the Hamiltonian for a closed system at some point in the past and the same system's dynamics at some later time). If the world is deterministic, a total cause will make the effect (nomologically) necessary. But no proper part of the total cause will do so. This is because, if a cause is not total, then there remains the possibility that additional causes will bring about some entirely distinct effect. This observation has led some to suggest that dispositional properties can do no more than *tend* their bearers toward certain effects (Anjum and Mumford, 2018; Mumford and Anjum, 2011; Tugby, 2022). However, it is a mistake to think that any cause, total or non-total, has any intrinsic properties which could even establish a tendency toward any specific effect.[18] For example, the Hamiltonian of a system has no unconditional implications for future dynamics. Only on the condition that the system is isolated or on the condition that the system is part of a larger system the rest of which has a certain specified state, do we get any implications for future dynamics. So ultimately, it is implausible that the qualitative nature of the universals of a cause can ground any non-conditional behaviour whatsoever. For even if the specified cause is in fact total (there are no further causes), totality is not itself an intrinsic property of the cause or indeed any system, save for the world as a whole, and hence, presumably, not a universal.[19] Therefore, insofar as the universals of a cause establish a tendency

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[17] The view needn't be that all dispositional properties are intrinsic, only that many of them are.

[18] That's not to say that non-total causes can't establish statistical probabilities, grounded in actual frequencies.

[19] Even if one took the world as a whole to be metaphysically prior to its parts (a la Schaffer 2010), it is still not obvious that totality could be an intrinsic property, although I grant there may be some room for debate here.

toward any behaviour, it must be a tendency towards all unconditional (nomologically) possible behaviours whatsoever, which is to say that such tendencies are no more than mere possibilities. This goes to show, I take it, that qualitative universals cannot alone ground any informative behaviour.

The lesson we should draw from the failure of the grounding view to show that unconditional behaviour can be grounded in intrinsic universals is, I think, that the conditionality of a cause for its effect can't be explained purely in terms of intrinsic properties of the cause. What else is needed? Presumably, it would be no better to assert that the relevant properties underlying the cause's conditionality are grounded in the cause and other ongoings distinct from the effect.[20] A relationship with the effect must be part of the explanation of a cause's conditionality for its effect, which is to say that at least *some* backing relationship between cause and effect must be in place.

So let's explore a different approach. In contemporary western metaphysics, there has been a significant emphasis on explanations between first-order events making recourse to *second-order* relationships. The thought is that a causal relationship between some instance of a universal F (the cause) and another G (the effect) would be explained, not by some relationship between the instances (as in previously considered accounts) but by the fact that F and G are themselves related by a higher-order universal (Armstrong and Heathcote, 1991; Armstrong, 1997, 2004). Something about this higher-order relationship is supposed to ensure that all Fs are followed by Gs, thereby necessitating that if there was a cause comprising an instance of F, there would also be an effect comprising and instance of G.[21] This, it is supposed, shows that a causes' conditionality can be backed by the cause instantiating a universal (F) which features in one of these higher-order relationships alongside the defining universal of the effect (G). Moreover, and crucially for the current discussion, since the cause (the instance of F) and the cause's conditionality (F's involvement in a higher-order relationship with G) do not themselves seem ontologically dependent on the existence of the effect (the instance of G), the view does not appear to be committed to NAG2.[22]

Famously, these 'necessitarian' views of first-order explanation are plagued by an inference problem: with what justification can we infer, from the existence of a higher-order relation between F and G, that all Fs will be followed by Gs (Lewis, 1983; Van Fraassen, 1989)?[23] The risk is that in ensuring that the higher-order relation can

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[20] Imagine a view that takes conditionality to amount to no more than Hume's 'internal' criterion that the thought of the cause leads us to think of the effect. Such a view might permit conditionality not to rest on the existence of the effect, but is totally implausible as a view of causation. Even Hume recognised that causation is more than *just* projection of the mind (Hume, 1978, 1993).

[21] For brevity, I restrict talk of the higher-order relation as one of 'necessitation', but the criticisms raised against this view carry straightforwardly over to views whereby the higher-order relation is merely one which ensures a tendency, or propensity for the effect to follow the cause (as in Mumford and Anjum 2011, Tugby 2022).

[22] In fact, however, if an 'Aristotelian' conception of universals is maintained, there may be a different source of explanatory dependency due to the fact that such universals ontologically depend on the existence of some instance of them (Tugby, 2016a, b).

[23] Tugby (2022) distinguishes the 'inference problem', which concerns the logical justification for deducing statements of the regularity from statements of the law, from the 'entailment problem', which concerns the metaphysical determination of the regularity from the law. I do not see the need to make a distinction between these problems here.

do this we will have to define it in such a way that it directly involves the very first-order regularity it is supposed to explain. We therefore meet a problem structurally equivalent to the problematic relationship exposed by Nāgārjuna between a cause's conditionality and the cause's effect. And it's a problem which needs to be solved if it is to assist in a rejection of NAG2, since it is exactly the instances of those regularities that are the causal relationships Nāgārjuna is critiquing.[24]

In an effort to explain how this inference problem could be addressed, Tooley suggested that Gs would follow Fs if F 'exists only as a part of the conjunctive universal F *and* G' (1987, 127, with different letters). I think we can agree that this solution will ensure the regularity is entailed without assuming the existence of any particular effects, and thereby would avoid a commitment to NAG2. But the suggestion has the consequence that instances of F will be also instances of G. If the invocation of conjunctive universals is supposed to explain causes' conditionality for their effects, then it does so at the cost of asserting that causes (those events which instantiate the causal universal F) contain their effects (since the event will also be a G). As we have seen, this is a consequence Nāgārjuna has shown us must surely be wrong.

A rather different way to address the inference problem has been put forward in the following way by Bird.

> The Inference Problem is solved only if necessitation has an essence (essentially, if $N(F, G)$ then [the extensional inclusion relationship] $R(F, G)$). But if we allow N to have an essence by which it is related to a distinct property, R, then there can be no objection to allowing F to have an essence whereby it is related to the distinct property G. In which case we may dispense with N altogether. (Bird 2005, 154–155)

The result is 'dispositional essentialism', the view that properties have non-trivial modal connections (such as entailments, or conditional entailments) with other properties as part of their essence (Bird, 2007; Chakravartty, 2003; Ellis, 2001). Accordingly, the conditionality of the cause will be a property F whose essence is to be related to G in a way that ensures the effect (an instance of G) will follow the cause.

But does such a view avoid NAG2? I do not see how. Notice that the above recommendation from Bird is misleading in one crucial respect. By his own lights, the necessitarian who doesn't make reference to dispositional essences cannot posit the existence of a genuine second-order relationship of extensional inclusion $R(F, G)$. If they did, then they would have endorsed a second-order relation R distinct from any first-order regularity that, when instantiated by two first-order universals F and G, entails a first-order regularity of Gs following Fs. But that is to posit a relationship which does precisely the job that the inference problem shows to be problematic. In trying to problematise necessitarianism, therefore, Bird needs to focus, not on the inference between $N(F, G)$ and $R(F, G)$, as he puts it, but rather on the inference between $N(F, G)$ (or $R(F, G)$) and the first-order regularity that Gs follow Fs. However, Bird's solution now looks in danger of failing to do the very thing necessitarians

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[24] I am here assuming that instances of a regularity are partial explainers of whatever the regularity itself is a partial explainer of. This follows from orthodox views on metaphysical explanation (e.g. Fine 2012, Wilsch 2021) but is not endorsed by everyone (e.g. Bhogal 2017, Marshall 2015).

set out to do. Since, with the issue re-focused, Bird's solution to the inference problem is to make the *regularity* (as opposed to the relationship $R(F, G)$) part of the essence of $N(F, G)$, or simply of the essence of universal F. And the regularity, of course, includes instances of Gs. His solution is therefore guilty of the same circularity committed to by Humeans, that the effects (e.g. instances of G) of causal relationships supposedly explained in part by laws, or the essential non-trivial modal character of universals involved in laws, are in fact themselves partial explainers of the laws.[25] So, in an effort to avoid the inference problem, this last view seems to lose the very aspect of higher-order approaches which prevented them from entailing NAG2.

By this stage, I have explored a whole swathe of metaphysical views all of which succumb to the force of Nāgārjuna's dilemma. I can't guarantee that the survey has been exhaustive. But it certainly covers the key players on the current metaphysical market. All except one that is.

8 OSR and NAG2

Unlike the views just considered, OSR neither conflicts with NAG2 nor succumbs to the obvious alternative problems already pre-empted by Nāgārjuna, such as entailing that causes contain their effects. To see why, let's begin by noting that, despite the failure of dispositional essentialism to provide a satisfactory response to NAG2, it is simple to see how the view might be amended so as to do so. The issue with the dispositional essentialist view described above is that the inference problem is solved by having the cause-effect pairs that comprise the regularity to be explained being themselves a part of the underlying explanation for the very backing relationship that is itself supposed to explain each cause's conditionality. But what if things were rather the other way round? That is, what if the cause-effect pairs are *constituted by* a higher-order relationship? This, finally, would be a way to avoid NAG2, since it would make the backing relationship between causes and their effects explanatorily prior to the effects (and causes). To avoid NAG2 in this way is, of course, to assert exactly what OSR asserts: that the world is, fundamentally, a structure of relations, with the relata (e.g. causes and effects) being metaphysically secondary.

The specific employment of OSR being considered here is an instance of the more general view that laws ground their instances. The idea that laws ground their instances is gaining increasing traction (Bhogal, 2017; Emery, 2019; Marshall, 2015; Rosen, 2010). Interstingly, the connection between OSR and the view that laws ground their instances is often only remarked on in passing. This may be because proponents of the latter are willing only to endorse the idea that laws ground regularities without also grounding those regularity's instances (as in Bhogal 2017, Marshall 2015; see also fn.24), but it is also more generally because laws are typically treated among the view's proponents as having a propositional structure rather than being relations.

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[25] The criticism here is the exact opposite of that raised in Barker and Smart (2012), where Bird's view is criticised for failing to solve the inference problem because of an apparent 'gap' between the higher-order relationship and the regularity. Ultimately, Bird's account therefore is stuck between positing either too close a connection between the regularity instances the N-relationships are supposed to explain or else too great a gap between them.

In either case, it is hard to see how laws could constitute the conditionality of a cause for its effect, which is a matter of how the cause and effect are related to each other. A fact of the form '$\forall x(Fx \rightarrow Gx)$' no more clearly constitutes the 'positive' relationship between Fs and Gs than the 'negative' relationship between non-Gs and non-Fs, or the 'mixed' relationship between non-Fs and Gs (i.e. any pair consistent with the formula). It is, therefore, unclear how such views would even engage with the dilemma established by Nāgārjuna, which specifically concerns the relationship between causes and effects. But the view that laws ground their instances need not be understood in propositional terms. For instance, a view according to which laws are relations between first-order properties that ground—or more precisely *constitute*— instances of the first-order properties is not one which suffers this kind of indifference towards first-order relations and can be put to work in responding to Nāgārjuna.

This route via a grounding view of laws is certainly one way in which OSR might be invoked to avoid commitment to NAG2. But OSR can also be put to work in a way that avoids going via laws. A different, simpler, view is simply that each cause's conditionality for its effect is grounded in a sui generis causal relationship, either unique to the particular cause-effect pair, or else a general relation that holds between all causes and their effects. This latter view seems to have been endorsed by Randall Dipert.

> We should [...] express ourselves in terms of the root phenomenon [...] and say that certain entities interact with other entities in certain ways: this relational interactivity *is* the underlying phenomenon. (Dipert 1997, 340)

Here is not the place to explore which of these various positions within OSR is the more plausible.[26] What is important to acknowledge is that OSR provides a general, and perhaps unique, strategy for avoiding commitment to NAG2, that doesn't come at the cost of failing to address the inference problem (since the relationship constitutes the required regularities), nor succumbing to the idea that causes contain their effects. It does so by understanding the relata of causal relations, viz., the cause and the effect, to be constituted by the causal-nomic relations by which they are related. So, instead of the effect being explanatorily prior to the backing relation which confers conditionality on the cause, this backing relationship is explanatorily prior to the effect, contra NAG2.

9 Conclusion

I started out this exploration of Nāgārjuna's dilemma for causal relations with the observation that OSR and the Buddhist tenet of Dependent Origination share something in common: they both understand the world to comprise a network of modal dependency relationships, of which cause-effect relationships are paradigm. Unlike OSR, however, Dependent Origination is not always taken by its defenders to be incompatible with the relata of these dependencies having their own intrinsic natures (*svabhāva*). Nāgārjuna's dilemma for cause-effect pairs in verses 1.5–1.6 of the MMK

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[26] See Hildebrandt (2020); Jaag (2021); Wilsch (2021) for criticism of the grounding view. See Barker (2013) for criticism of Dipert's view.

problematises the idea that causes and effects could have this kind of intrinsic identity. While many have interpreted the problem identified in this dilemma in terms of how causes and effects are organised in time, I have argued that it is more promising to understand the dilemma in terms of how the conditionality of causes for their effects and the effects themselves are explanatorily ordered. I hope to have shown that interpreting the argument this way has significant appeal from a purely scholarly perspective. However, I also hope to have shown that it makes for a much more compelling problem for contemporary metaphysical accounts of causation. Among a vast swathe of available accounts, only OSR appears to have the means to respond to the dilemma, so interpreted. Of course, this should be exactly what we expected, since it is, among all the contemporary metaphysical views considered above, OSR that retains the aspect of Buddhist thought Nāgārjuna wanted to uphold, the Dependent Origination of all things at the expense of their intrinsic identity.

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