

# Doing

**An Essay on Causation, Events, and Action in the Most General Sense**

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Submitted to the Department of Linguistics and Philosophy on 8/28/2020 in Partial Fulfillment of the Requirements for the Degree of Doctor in Philosophy in Philosophy at the MASSACHUSETTS INSTITUTE OF TECHNOLOGY.

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Our world is populated not just by things, such as bombs, matches, and people, but also by events, like explosions, ignitions, and decisions. Part I, “Doings”, is centered around my attempt to capture the nature of events. Events straddle the realms of thing and fact, eluding analysis, making this a difficult task. Yet it is an important one, because events play crucial roles in so many places: in philosophy of action and mind, in syntax and semantics, and particularly in metaphysics, where they are widely supposed to be the only true causes and effects. Part II, “Thing Causation”, argues that the true causes are things.

I first argue that previous theories have failed to capture the nature of events. Jaegwon Kim’s well-known view takes every event to be associated with a triple of a thing, a repeatable that the thing instantiates, and a time of instantiation. Kim uses this one-to-one association to give existence and identity criteria for events. I argue that Kim’s “events” are not really events at all; insofar as we can make sense of them, they are more like facts or propositions. But Kim’s approach should not be abandoned altogether; the problem is not with association itself, but rather with Kim’s assumption that association is one-to-one. Dropping this assumption results in a moderately coarse-grained conception of events that better matches our ordinary conception. It shares most of the theoretical virtues that Kim’s view enjoys; most importantly, association can still be used to give existence and identity criteria. And it has a number of significant theoretical advantages over Kim’s view, two of which I develop in depth: these moderately coarse-grained events are robust enough to support a version of token physicalism that does not collapse into type physicalism, and they illuminate the logical structure of the determinate-determinable relation.

A second topic in Part I is the distinction between events and states. This distinction usually is either ignored, or else captured by taking events, but not states, to be changes in things over time. The latter approach is too narrow, for it precludes instantaneous events, and it forecloses a “dynamic” picture of fundamental reality, on which there are goings-on that (unlike changes) do not consist merely in reality being one way and then another. Instead, events are best

understood as cases of things doing something, or simply “doings”. Rockslides, for instance, are cases of rocks sliding, and sliding is something rocks can do. Things done, like sliding, are a special sort of repeatable. Thus I say that events are associated with triples of a thing, a repeatable that can be *done*, and a time. I develop this very broad notion of “doing something” by appealing to a linguistic distinction between dynamic and stative verbs. This distinction is central to the linguistics literature on aspect, and it is also philosophically important, since dynamic verbs stand for things done, whereas stative verbs stand for properties.

Once we understand what events are, it emerges that events are not the sorts of entities that could cause, except in a derivative sense. In Part II, “Thing Causation”, I argue that causation most fundamentally involves a *thing* causing another thing to do something. It is most fundamentally people and explosive substances, not actions and explosions, that cause. Causation between events is reducible to thing causation, but no reverse reduction is possible. I also touch on a number of other questions, including whether causation is partly normative, whether causation can occur even when no particular entity does any causing, and whether free agency involves causation by an agent. Regarding the last of these, I argue that agent causation is coherent and real, and the best-known objections to it fail completely, but agent causation on its own does not do the heavy lifting some agent-causal theorists expect from it. What is needed for agent-causal freedom is not just any causing done by an agent, but causing that is *basic*—that the agent does not do by doing anything further.

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For my father, Fred

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## **Part I: Doings**

The popular mind separates the lightning from its flash and takes the latter for an action.

- Friedrich Nietzsche, *On the Genealogy of Morality* (I, 13)

What does nothing, is nothing.

- Henri Bergson, *The Creative Mind* (pg. 76)

## Chapter 1: What Are Events?

### 1.1 Familiar Events

A common sentiment among philosophers writing on events is that the *only* thing for a theory of events to do is to provide some entities that serve some particular theoretical purpose. Helen Steward, for example, says that “philosophical views about the nature of such items as events can only pass muster if they are regarded as stipulative—as defining a class of items useful for the purposes of some general theory or other.”<sup>1</sup> And David Lewis begins his paper “Events” by declaring that “[e]vents are not much of a topic in their own right”; instead, “events earn their keep in the discussion of other topics”.<sup>2</sup> For Lewis, this topic is causation: Lewis tailors his events so that they can serve as the relata of causation. Lewis starts with his counterfactual analysis of causation, and he works backward to figure out what the relata of causation, which he calls “events”, must be like if his analysis is true. (They turn out to be certain sets of regions of spacetime.) Lewis is not alone in this approach; among others, Jaegwon Kim (whose view is the focus of §1.2) similarly tailors his view of events so that they can serve as the relata of causation.

There is nothing wrong with identifying the need for entities that play a certain role, providing some such entities, and calling these entities “events”. There is no harm in a stipulative use of the term “event”, so long as we bear in mind that the so-called “events” may not have much in common with the familiar events that surround us, such as concerts,

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<sup>1</sup> Steward 1997, pg. 8. For more discussion, see Casati and Varzi 2008.

<sup>2</sup> Lewis 1986, pg. 241

arguments, flashes of light, piercing shrieks, brain farts, poor decisions, missteps, grand adventures, snowstorms, sunsets, coronations, miracles, misdeeds, accidents, blushings, sneezes, changes in color, pandemics, elections, murders, invasions, world wars, and sudden movements. We hear, see, and feel these familiar events, and we have standard ways of thinking and talking about them, particularly by means of event nominals. Familiar events are not esoteric entities or theoretical posits, and their nature is no more up for stipulation than the nature of mammals or rocks.

A project different than Lewis's is to investigate the nature of these familiar entities. This project is interesting largely because familiar events may very well turn out to play a number of different important theoretical roles. Donald Davidson and some subsequent philosophers have painted a highly unified picture, on which familiar events play many roles throughout philosophy. According to Davidson, events are the relata of causation, and they are quantified over implicitly in all action sentences, and explicitly in the correct formulation of physicalism, in dynamical laws of nature, and in many theses in action theory.<sup>3</sup>

In this chapter, I lay out the advantages and disadvantages of some of the most prominent accounts of events, focusing especially on Kim's and Davidson's accounts. My main goal is not to provide anything like a decisive refutation of Kim or Davidson, but rather to lay out problems that point the way toward a view that has the advantages of both views and the disadvantages of neither. I argue that although Davidson's conception of events nicely

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<sup>3</sup> Davidson 1980. See also Lepore and McLaughlin 1985 and Hornsby 1980, 1999.

matches our ordinary conception of events, Davidson's metaphysics of events is impoverished in certain respects. Davidson's conception of events fails to accommodate some cases of causation, and it fails to account for the ontological dependence of events on things. Kim's view is nearly the opposite: although it suffers from neither of these problems, what Kim calls "events" have little in common with familiar events. Instead, Kim's events appear to be more like facts or propositions. In Chapters 2 and 3, I develop a view that combines the virtues of each of Kim's and Davidson's views while avoiding their problems.

## **1.2 Kimian Events and Their Names**

Kim takes events to be fine-grained and plenitudinous, to include states, and to depend ontologically on *things*. Kim has in mind "things like tables, chairs, atoms, living creatures, [as well as] bits of stuff like water and bronze".<sup>4</sup> Things are meant to contrast with events: things are entities that exist in time, but do not *occur* in time. Being particulars, they also contrast with repeatable entities, such as properties and relations.

Kim's core idea is that every event can be associated with a "constitutive" ordered triple of a thing, a property, and a time, and these triples can be used to individuate their associated events. Given a triple of a thing A, property P, and a time t, such that A instantiates P at t, we can associate that triple with an event, which we might call the "instantiation of P by A at t". According to Kim, many such triples, though not all, can be associated with some event.

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<sup>4</sup> Kim 1976, pg. 311. Kim often uses the word "substance", but I will stick with "thing" in explaining his view.

Furthermore, Kim claims that each such triple is associated with at most one event; there are never two events associated with a single triple. Conversely, *every* event is an instantiation of some property by some thing at some time; every event is associated with a triple. And every event is associated with a *unique* triple. So we can let “[...]” stand for a one-to-one partial function from things, properties, and times, onto events. Making use of all this, Kim gives the following criteria of identity, existence, and application for events:

Kim’s Application Criterion: For any E, E is an event just in case for some thing A, property P, and time t,  $E = [A, P, t]$ .

Kim’s Existence Criterion:  $[A, P, t]$  occurs just in case A has P at t.

Kim’s Identity Criterion:  $[A, P, t] = [B, Q, t']$  just in case  $A = B$ ,  $P = Q$ , and  $t = t'$ .<sup>5</sup>

Furthermore, these criteria are all supposed to be necessary truths. However, Kim’s existence criterion needs to be qualified in two ways. First, Kim takes the existence criterion to be necessarily true only on a *de dicto* reading: it is necessarily true that  $[A, P, t]$  exists just in case A has P at t. As Kim is aware, the *de re* necessity claim is false: it says that the event that is actually  $[A, P, t]$  necessarily occurs just in case A instantiates P at t. This would imply that all events have their time of occurrence essentially, and Kim rejects this implausible consequence. This point is important, for it might initially appear that Kim can provide a general formula giving the essential properties and modally sufficient conditions of every event (so long as we know the event’s triple). If he could, it would be very helpful; in particular, knowing the essences of

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<sup>5</sup> Kim 1976, pg. 311. Kim 1973 extends this account to deal with polyadic events.

events would be useful in evaluating and applying counterfactual and modal accounts of event causation.<sup>6</sup> But Kim does not claim to have any such general formula.

The second qualification is that the backward direction of the existence criterion is true only when we restrict the properties in question to “genuine properties”. According to Kim, if P is a radically extrinsic or gerrymandered property, then there is no such property as [A, P, t]. Kim says little about what exactly would suffice to make a property a “genuine” property, though he gives enough examples of events to make clear that he has a fairly abundant conception of genuine properties, and thus an abundant conception of events.

There are really two different ways to evaluate Kim’s view of events. One is to look at the purposes for which Kim intended it, and to evaluate the view’s success on those terms. Kimian events are designed to serve a particular theoretical role—to serve as the relata of causation and causal explanation—and we can evaluate how well they play that role. The other way to evaluate Kim’s view is to see how well Kimian events match our ordinary conception of events, and how well they play the roles that we might hope events can play.

On Kim’s own terms, his theory of events is fairly successful. Kim sometimes says that his events are intended to serve as the relata of causal explanation, and sometimes says instead that they are to serve as the relata of causation itself. Kimian events do *not* work as well as the relata of causal explanation. Many causal explanations are explanations of why some Kimian event occurred, but not all are. Kimian events all involve a particular *thing*, but some

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<sup>6</sup> See Lewis 1986, Bennett 1987, and Yablo 1992 on the importance of event essences for counterfactual analyses.

explananda are quantificational. For example, an economist might give a theory that explains why many businesses performed poorly this year, without offering an explanation, of any given business, why it performed poorly. If we treat causal explanation as a relation between Kimian events, we cannot account for such cases.

But Kimian events seem well-suited to serve as the relata of causation, at least in a number of important respects. In “Causation, Nomic Subsumption, and the Concept of an Event”, Kim makes a strong case that his events are the right sorts of entities to stand in the four relations that Hume identifies as *prima facie* necessary conditions for causation: constant conjunction, contiguity in space and time, temporal priority, and necessary connection.<sup>7</sup>

Furthermore, Kimian events are able to accommodate fine-grained causal distinctions. Fine-grained causal distinctions are distinctions that cannot be drawn if we take causation to be a relation between coarser-grained events. Here is an example. Suppose that Agatha has recently been working on her anger management issues, and she has been trying to develop a habit of treating people calmly and politely. Her coworker, Ben, shouts at her. The old Agatha (and most other people) would reply to Ben’s shouting with at least a hint of annoyance. But the new, calmer Agatha manages to reply politely. Now, here is something true about this story: Ben’s shout causes Agatha to reply. However, his shout does not cause her to reply *politely*. On a coarse-grained view of events, this distinction is hard to accommodate. Agatha

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<sup>7</sup> Kim 1973

replies only once to Ben, so there is just one reply, and it is caused by Ben's shout. How do we make sense of the fact that the shout does not cause Agatha to reply politely?

Kim's fine-grained view allows Kim to give a straightforward answer: he denies that there is just one reply. One event is [Agatha, replying,  $t$ ] (where  $t$  is the time of the reply), and a distinct event is [Agatha, replying politely,  $t$ ]. Replying and replying politely are two different properties, so the events are distinct. And the former is caused by Ben's shout, while the latter is not. Kimian events are nicely tailored to be fine-grained enough to accommodate cases like this.

Despite their potential utility, Kimian events do not seem to be much like familiar events. Instead, they are more like facts or true propositions. For one thing, the identity criterion that Kim provides for his events matches a standard identity criterion for propositions. On a common structured conception of propositions, a proposition  $\langle A \text{ is } F \text{ at } t \rangle$  is identical to  $\langle B \text{ is } G \text{ at } t' \rangle$  just in case  $A = B$ , the property of being  $F =$  the property of being  $G$ , and  $t = t'$ .<sup>8</sup> So when it comes to individuation, Kim's events are proposition-like.

Kim's other two criteria also appear to match the criteria, not for propositions generally, but specifically for true, monadic, atomic, dated propositions—that is, true propositions of the form  $\langle A \text{ is } F \text{ at } t \rangle$ . Kim's existence criterion says that there is an event  $[A, P, t]$  just in case  $A$  instantiates  $P$  at  $t$  (and  $P$  is a "genuine" property). Similarly, there is a true proposition  $\langle A \text{ is } F \text{ at } t \rangle$  just in case  $A$  instantiates the property of being  $F$  at  $t$ . And Kim's

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<sup>8</sup> For standard accounts of structured propositions, see Russell 1903, pgs. 43–52 and Soames 2019.

application criterion says that  $x$  is an event just in case for some  $A$ ,  $P$ , and  $t$ ,  $x = [A, P, t]$  and  $A$  instantiates  $P$  at  $t$  (this second conjunct is redundant). Similarly,  $x$  is a true, monadic, atomic, dated proposition just in case  $x$  takes the form  $\langle A \text{ is } F \text{ at } t \rangle$  and  $A$  instantiates the property of being  $F$ , at  $t$ .

Some of Kim's own remarks suggest that Kimian events are propositions or facts, rather than events. Kim himself admits at times that Kimian events are "factlike" and should perhaps be called "facts".<sup>9</sup> Kim is aware that his criteria match criteria for structured facts or propositions. Furthermore, Kim sometimes talks of "merely possible events", which are associated with a unique triple  $\langle A, P, t \rangle$  such that  $A$  does not instantiate  $P$  at  $t$ .<sup>10</sup> This strongly suggests that Kim has in mind entities that could exist despite failing to obtain or occur. A prime candidate for such an entity is a contingently false proposition.

Additionally, Kim usually refers to Kimian events using nominals that plausibly refer to facts. This point has been emphasized by Zeno Vendler and Jonathan Bennett, who draw a distinction between two kinds of nominals: perfect and imperfect nominals.<sup>11</sup> Very often, two different nominals can be derived from a single sentence. Here is Bennett's example:

The sentence "Quisling betrays Norway" is the source of the following two nominals...:  
D: Quisling's betrayal of Norway. G: Quisling's betraying Norway... There are four big grammatical differences between these. (1) In D but not in G, the first word can be replaced by a definite or indefinite article, and D but not G can be pluralized. (2) D takes adjectives in the attributive position, G takes adverbs: Quisling's treacherous

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<sup>9</sup> Kim 1969, pg. 213

<sup>10</sup> Kim 1976, pg. 310

<sup>11</sup> See also Vendler 1967, chapter 5.

betrayal of Norway, Quisling's treacherously betraying Norway. (3) In G the gerund can be negated, tensed, and modalized through auxiliaries: Quisling's not betraying—having betrayed—being going to betray—having to betray—being (un)able to betray—Norway. None of these operations can be performed on D. (4) In D the relation to Norway is expressed through “of” whereas in G it is direct. These differences are summed up in the statement that “betrayal” is perfectly a noun, whereas “betraying”, as it occurs in the phrase “Quisling's betraying Norway”, is a sort of noun that still has, as Vendler puts it, a verb alive and kicking inside it...It is therefore labeled as an imperfect nominal, whereas “betrayal” is a perfect nominal—its status as a noun is pure and untainted by any grammatical reminders of the verb that is its source. In a nutshell: “Quisling's betrayal of Norway” is grammatically like “the fjords of Norway”, whereas “Quisling's betraying Norway” is much more like “Quisling betrays Norway”.<sup>12</sup>

Perfect nominals, such as “Quisling's betrayal of Norway”, refer to events. But Bennett and Vendler argue that imperfect nominals do not refer to events; instead, they refer to facts.<sup>13</sup>

“Quisling's betraying Norway” refers to the fact that Quisling betrays Norway.<sup>14</sup>

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<sup>12</sup> Bennett 1988, pgs. 3–4. Similarly, Hornsby 1999, footnote 5 says:

[i] “Anna's eating the apple”...[ii] “Anna's eating of the apple”...Notice that of these two nominals, only [ii]...has any of the following three properties (a) it can be pluralized; (b) “Anna's” in it can be replaced by an article, (c) the residual verbal element in it can be modified with adjectives (not adverbs). The fact that [i] has none of these properties makes it implausible that it stands for any particular, for any event.

<sup>13</sup> For contrary views of the referents of imperfect nominals, see McCann 1979 and van Lambalgen and Hamm 2005, chapter 1.

<sup>14</sup> I am setting aside tense here. Bennett seems to take many imperfect nominals (including Quisling's betraying Norway) to refer to untensed propositions.

Bennett takes these facts to be true propositions.<sup>15</sup> Bennett says of the example “his pushing a car”:

It is an imperfect nominal, so-called because it retains at least seven grammatical marks of the verb [“push”] from which it comes. (i) It has a direct object, just as a verb would: it says “pushing a car”, which is like “he pushes a car”. (ii) It doesn't admit of articles: We cannot say “a pushing a car” or “the pushing a car”. (iii) It doesn't admit of plurals: We cannot say “pushings a car”. (iv) It takes adverbs before the gerund: “easily pushing a car”, “elegantly pushing a car”. (v) It can be modified with respect to tense: “having pushed a car”...(vi) It can be transformed modally: “having to push a car”, “being unable to push a car”. (vii) It can be negated: “not pushing a car”. These seven features form a grammatically natural cluster: any gerundial nominal that has one has the lot. Furthermore, all seven are shared by the “that P” expressions which are our paradigm for referring to propositions. Consider “...that he pushes a car”: direct object, no articles before the verb, adverbs and not adjectives, tenses, modals, negation—the whole apparatus. I conclude that imperfect nominals behave so thoroughly like “that P”

phrases that they should be understood as names of propositions.

On Bennett's view, imperfect nominals, like “that” clauses, refer to true propositions, rather than events.

Now, Kim usually uses imperfect nominals when discussing events, rather than perfect nominals. Kim talks of “Mary's kissing an admirer” and of “the bolt's giving way so suddenly”, and he claims that Brutus's stabbing Caesar is distinct from Brutus's killing Caesar. (Kim sometimes uses perfect nominals, but then slips back into using imperfect nominals whenever

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<sup>15</sup> Vendler 1972, chapter 5 gives reasons for distinguishing facts from true propositions

questions of individuation come up.<sup>16</sup>) This suggests that Kim is interested in the referents of these imperfect nominals; so if Vendler and Bennett are right, then Kim is really interested in facts.

One might think that Kim's use of imperfect nominals is inconsequential—a minor mistake irrelevant to the substance of Kim's work. But it is no coincidence that Kim uses imperfect rather than perfect nominals. There is a very neat one-to-one mapping of imperfect nominals to Kimian events. Given a true sentence “A VPed at t”, the imperfect nominal derived from it, “A's VPing at t”, can be paired up with the Kimian event [A, the property of VPing, t]. For instance, “Quisling's betraying Norway suddenly” can be paired with [Quisling, betraying Norway suddenly, the relevant time (the year 1940)]. Other imperfect nominals will be paired with a distinct Kimian event just in case they seem not to corefer. “Quisling's betraying Norway” seems not to corefer with “Quisling's betraying Norway suddenly”, and it can be paired with the distinct Kimian event [Quisling, betraying Norway, 1940]. In short: the fine-grainedness of imperfect nominals matches the fine-grainedness of Kimian events. This strongly suggests that this pairing of imperfect nominals with Kimian events is *reference*: Kim is right in using imperfect nominals to refer to Kimian events. And if Vendler and Bennett are right that imperfect nominals refer to facts, then Kimian events are facts.

There is also a separate problem for Kim: perfect nominals do *not* map neatly onto Kimian events. If events are Kimian events, and perfect nominals refer to events, then which

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<sup>16</sup> Kim 1976, pg. 316

Kimian event does a given perfect nominal refer to? Consider “Quisling’s betrayal of Norway”, “Quisling’s betrayal of his homeland”, and “Quisling’s sudden betrayal of Norway”. These all refer to the same event.<sup>17</sup> But if events are Kimian events, then which Kimian event do they refer to? To [Quisling, betraying Norway, 1940]? Or to [Quisling, betraying Quisling’s homeland, 1940]? Or to [Quisling, suddenly betraying Norway, 1940]?

The problem here is not that Kim is forced into any inconsistency or absurdity. The problem, rather, is that there is no straightforward semantics that tells us which Kimian events perfect nominals refer to. Whereas Kim *can* provide a neat semantics for imperfect nominals, it appears that Kim cannot do so for perfect nominals. As Bennett says:

What about [perfect] nominals...? What about “the loss of the Titanic” and “Mary’s theft of the bicycle” and “Brutus’s assassination of Caesar”? In ignoring these, Kim is staying silent about the vast majority of event names that occur in ordinary speech and thought.

Kimian events seem to be the referents of imperfect nominals, not perfect nominals; thus they are facts, not events.

Kimian events are supposed to do certain philosophical work. If Kimian events are facts, then it might turn out that it is really facts that do that work. It would be quite interesting to discover that many roles for events are instead played by facts. Alternatively, we might conclude that Kimian events, as facts, are not fit to play the roles we hoped they could play; perhaps some other entities must play those roles instead. One concern in particular is

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<sup>17</sup> Kim 1976, pgs. 318-319 flirts with the idea that “Sebastion’s leisurely stroll” fails to corefer with “Sebastion’s stroll” (supposing that Sebastion has taken only one stroll).

that if facts are abstract entities, then they are unfit for certain uses. This problem is especially acute if facts are true propositions, as Bennett takes them to be.<sup>18</sup>

Kimian events are supposed to be the relata of causation. As I noted, they are in many respects well-suited to this role. However, the idea that causation relates propositions is odd. Causes are the sorts of entities that can push around, melt, or crush other entities. Propositions, by contrast, are abstract entities, not located in space, and certainly not capable of melting or crushing anything. Whereas events, as concrete particulars, seem to be the sorts of entities that could push, melt, and cause other entities, propositions do not. This casts doubt on the primary role that Kimian events are supposed to play: serving as the relata of causation. (For a more nuanced and detailed presentation of this problem, see §4.6.)

The abstractness of Kimian events similarly makes trouble for other uses of them. Events are usually taken to be objects of perception, and sometimes even the most basic objects of perception.<sup>19</sup> This is particularly plausible for hearing—we hear sound events, such as bangs and shouts—but it also applies more broadly: we also see flashes of light, sunsets, and other visible events, and we feel sudden movements. Kimian events, being propositions, arguably are

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<sup>18</sup> Additionally, Parsons 1990, chapter 9 argues that Kimian events cannot be the events of event semantics; Parsons says that event semantics needs coarser events. And Steward 1997, chapter 1 argues convincingly that coarser events are needed to support token physicalism. (I discuss Steward's argument in §3.5).

<sup>19</sup> Casati and Dokic 1994. Parsons 1990, chapter 1 argues that an event-semantic, but not a propositional, treatment of bare infinitival perceptual reports with bare infinitives, like "Jones saw the chameleon change color", can account for the validity of the inference, for instance, from "Jones saw the chameleon change color" and "the chameleon is Smith's favorite pet" to "Jones saw Smith's favorite pet change color". See also Higginbotham 1983.

not the sorts of entities we could hear or see, for propositions are not audible or visible. As C.

S. Peirce tells us:

You look at an object and say “That is red”. I ask you how you prove that. You tell me you see it. Yes, you see *something*; but you do not see *that it is red*; because *that it is red* is a proposition; and you do not see a proposition.<sup>20</sup>

### **1.3 Two Explanations Davidson Owes Us**

Davidson’s view of events is almost the opposite of Kim’s, and as a result, it has very different problems than Kim’s does. Davidson takes events to be coarse-grained, and his account excludes states. He does not take events to depend ontologically on things. More generally, Davidson does little to provide an account of the “internal metaphysics” of events. As a result, he gives no criterion of application or of existence.

Instead of trying to say what events are, Davidson takes events to be *sui generis* entities, and he seeks to understand events by looking at the various theoretical roles they play. These turn out to be quite considerable. Events, according to Davidson, are the relata of causation, and they are among the entities that dynamic laws quantify over. Intentional actions are a subclass of events. Events are crucial to the formulation of physicalism: Davidson’s token physicalism says that every mental event is a physical event. And Davidson takes the logical forms of action sentences to involve quantification over events.<sup>21</sup>

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<sup>20</sup> Peirce 1958, 6.95. This is not entirely uncontroversial: McDowell 1994 takes propositions to be the objects of perception, though he takes this back in McDowell 2008.

<sup>21</sup> Respectively, Davidson 1980, essay 7, essay 1, essay 11, and essay 6

Although Davidson provides no criteria of application or existence, he does provide a criterion of identity:

Davidson's Identity Criterion: Event E = event C just in case E and C have the same causes and effects.

Davidson was eventually convinced by W. V. O. Quine to abandon this criterion, and instead to accept a different criterion that Quine offered:

Quine's Identity Criterion:  $E = C$  just in case E and C occupy the same region of spacetime.<sup>22</sup>

Davidson initially rejected this extremely coarse-grained criterion on the basis of some compelling counterexamples. One such example is that of a ball that simultaneously rotates and heats up. The heating and the rotation appear to be distinct but coincident events. As Davidson points out, these seem to differ in their effects: the heating, but not the rotation, warms the ball's surroundings. However, Davidson eventually decided to replace his old criterion with Quine's criterion. In a reply to Quine, he accepted Quine's criterion, despite its implausible verdicts that the heating of the ball is its rotation and that the rotation warms the ball's surroundings.<sup>23</sup>

Davidson's discussions of particular cases are more illuminating than his first identity criterion. His discussions of cases reveal that he has a reasonably coarse-grained account.

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<sup>22</sup> In Davidson 1985, Davidson is convinced by Quine's argument that Davidson's criterion is problematically circular. Quine provides this criterion in Quine 1950, 1985.

<sup>23</sup> Quine 1985, Davidson 1985

Davidson thinks that if an agent shoots someone and thereby kills her, the shooting is the killing. More generally, Davidson thinks that if someone does  $\alpha$  entirely by doing  $\beta$ , then there is just one event, her action of doing  $\alpha$ , which is her action of doing  $\beta$ . On the other hand, when Davidson distinguishes the ball's rotation from its heating, he rules out an extremely coarse-grained view like Quine's. Additionally, Davidson's examples make clear that he takes events to be typified by the referents of perfect nominals, and also that he does not count states as events. In "Mental Events", for instance, he lists as examples of events "perceivings, notings, calculations, judgments, decisions, intentional actions and changes of belief".<sup>24</sup>

There is much to be said for Davidson's view: it captures our ordinary conception of events, and it takes familiar events to play many important roles in philosophy, resulting in a highly elegant and unified view. But Davidson's view also suffers from serious problems. One problem is that it struggles to accommodate fine-grained causation. Return to the example of Ben, whose obnoxious shout causes Agatha to reply, but does not cause her to reply politely. On Davidson's view, there is just one reply, it is polite, and it is caused by Ben's shout. There is no further causal distinction to be drawn.

Davidson discusses some cases of (what I would call) fine-grained causation, but he denies that they actually involve any fine-grained causal distinctions. Instead, he claims that they involve causal-explanatory distinctions. His examples involve the slightly clunky "the fact that..." construction; in particular, he discusses the case of collapse of a bridge, which is

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<sup>24</sup> Davidson 1980, pg. 208

“caused, not by the fact that the bolt gave way, but by the fact that it gave way so suddenly and unexpectedly”. Davidson says:

Such sentences tell, or suggest, a causal story. They are, in other words, rudimentary causal explanations. Explanations typically relate statements, not events. I suggest therefore that the “caused” of the sample sentences in this paragraph is not the “caused” of straightforward singular causal statements, but is best expressed by the words “causally explains”.<sup>25</sup>

In other words, Davidson thinks that some of what seem to be causal statements turn out not to be; they are causal explanations.

How much apparent causation turns out not to be genuine causation? Davidson’s examples downplay just how ubiquitous fine-grained causation is. Causal-infinitival phrases like “cause her to reply”, which are a paradigm of causal locutions, allow for fine-grained causation. Related phrases like “make her reply”, “prompt her to reply”, and “force her to reply”, also allow for fine-grained causation. So too does the “by”-locution (as we will see in §4.5). So too do causal statements with imperfect nominals: we can say that the shout caused Agatha’s replying, but not her replying politely. In fact, the *only* types of causal statements that do not allow us to draw fine-grained causal distinctions are those that refer explicitly to events, such as “Ben’s shout caused Agatha’s reply”.

Cases of fine-grained causation also pose further problems for Davidson. L.A. Paul and others have pointed out that Davidson’s view leads to problematic failures of the transitivity of

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<sup>25</sup> Davidson 1980, pg. 161

causation.<sup>26</sup> Paul gives the example of Suzy, who breaks her right arm in a skiing accident, and is thus forced to write a paper with her nondominant left hand. Shortly after Suzy writes the paper, it gets published. The question for Davidson is: did the accident cause Suzy's writing of the paper (with her left hand)? If the answer is yes, then we appear to have a counterexample to the transitivity of causation, since the writing of the paper causes the publication of Suzy's paper, but the accident surely does not cause the publication. We could answer "no", but that answer appears to be wrong. Paul points out that other effects of Suzy's writing of the paper seem to be indirect effects of the accident. If Suzy's left hand cramps up from writing so much and starts to hurt, then Suzy could blame the pain on the accident. But if the pain is an indirect effect of the accident, then presumably the more immediate effect of the accident that "mediates" the causing of the pain is Suzy's writing of the paper with her left hand. So the accident causes the writing of the paper after all.

There is another problem for Davidson that is unrelated to fine-grained causation. This second problem is a consequence of his silence on what exactly events are, and how they relate to things. There are strong correlations between events and things—correlations for which any theory of events should be able to account. Consider shouting. People who shout are always accompanied by events—shouts—and whatever the shouters cause by shouting is also caused by their shouts. For instance, if Ben causes Agatha to reply by shouting, then his shout causes her reply. Conversely, shouts are accompanied by shouters, and any effect of a shout is caused

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<sup>26</sup> Paul 2000, pg. 240-241, Ehring 1997, Hausmann 1998

by its shouter. The same goes for other events. Perceivings need perceivers; calculations need calculators; wars need warriors; rockslides need rocks; sunsets need suns; and actions need agents. If a sunset causes a reaction of awe in me, then the sun causes that reaction; the effects of a rockslide are caused by the sliding rocks; and whatever my actions cause are also caused by me. More generally, events are accompanied by things with which they share their effects.

Davidson is able to account for the fact that shouters are always accompanied by shouts. For on a Davidsonian (or rather, a Neo-Davidsonian) view, action sentences like “Ben shouted obnoxiously” should be analyzed, roughly, as “there was an obnoxious shout whose agent was Ben”.<sup>27</sup> If Ben shouts, it follows that there is a shout of Ben’s. The primary motivation for Davidson’s analysis is that he can treat adverb-dropping inferences as valid inferences of first-order logic. For instance, the validity of the inference from “Ben shouted obnoxiously” to “Ben shouted” can be explained by the validity in first-order logic of the inference from “there was an obnoxious shout whose agent was Ben” to “there was a shout whose agent was Ben”.

That this analysis can explain the validity of such inferences was Davidson’s reason for adopting it, and is often cited as the main motivation for Davidson’s analysis.<sup>28</sup> But a side benefit that is rarely explicitly discussed is that the analysis also explains why shouts always accompany shouters: to shout is to be a shout’s agent. Furthermore, Davidson and others have

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<sup>27</sup> This statement of this view is closer to what Neo-Davidsonians (such as Parsons 1990) say, rather than Davidson’s original view in *The Logical Form of Action Sentences*. It is widely accepted that the Neo-Davidsonian view is simply an improvement on Davidson’s original view.

<sup>28</sup> Davidson 1980, essay 6, Maiborn 2008

proposed analyses of causation by agents that reduce causation by agents to causation by events. On this view, for Ben to cause an effect is for him to be an agent of some event, such as his shout, that causes the effect.

But Davidson struggles to explain the converse fact that shouts are always accompanied by shouters that share their effects. More generally, he struggles to explain why events are accompanied by things with the same effects. Davidson says nothing about events that would explain why they always share their effects with things. In this respect, Davidson is in a very different boat than Kim, who can easily explain this. On Kim's view, necessarily every event comes with the thing in its associated triple. In the case of Ben's shout, the thing is Ben. And Kim can say that for any event  $E$ , letting  $E = [A, P, t]$ ,  $E$  causes  $C$  only if  $A$  causes  $C$ : the shout causes only what Ben causes. Kim's ability to account for this gives his view of events a significant advantage over Davidson's view.

There is a natural addition to Davidson's view that can explain all of this. We can say that it is impossible for a shout to occur without having an agent—a shouter. Part of what it is to be a shout is to have an agent. Conjoining this with Davidson's analysis of causation by things, we could explain why shouts only ever cause what shouters do. To generalize this beyond shouts, we can say that every event has something like an "agent". Of course, not every event is an intentional action, so we need a relation between events and their things that is much more general than the agent relation—a relation of which the agent relation is a subrelation, but which also includes much more. This relation relates rockslides to rocks,

sunsets to suns, and shouts to shouters. The natural addition to Davidson's view says that every event bears this relation to some thing (or things).

This natural addition is the right addition. In fact, it's the starting point of my view. To put it in a slogan: there are no "thingless" events. But important questions arise for this idea. First, what exactly is this relation that rockslides bear to rocks? The relation between an action and its agent may be more familiar to philosophers, but what do actions and their agents have in common with rockslides and their rocks? Second, if every event bears the relation to some thing(s), what follows? In particular, are there consequences for the individuation of events? Kim thinks that there are no thingless events, and for Kim, this comes with a fine-grained individuation of events. There is some temptation to think that the latter follows from the former. As I will show in Chapter 3, it does not; in fact, the idea that there are no thingless events can be used to give a criterion of identity for events that is much coarser than Kim's.

The second problem for Davidson, of explaining event-thing correlation, can be solved if we add to Davidson's view the thesis that there are no thingless events. But what about the first problem for Davidson I discussed, of accommodating fine-grained causation? Surprisingly, the addition turns out to help make room for fine-grained causation, though in a very roundabout way. In Chapter 4, I offer a solution to the problem of fine-grained causation that is radically different than Kim's and Davidson's. My solution involves two claims. The first claim is that there is room for fine-grained causation *if* the most primitive kind of causation is what I call "thing causation"—roughly, causation that takes the form "one thing

caused another thing to do something, by doing something itself". The second claim is that thing causation *is* in fact the most primitive kind of causation. The second claim crucially depends on the idea that there are no thingless events: it is defensible just in case no event is thingless.

## Chapter 2: What Things Do

In this chapter, I focus on the difference between events and states, and I develop the idea that events are “dynamic”. On my view, events are doings—cases of things doing something. Rockslides, for instance, are cases of rocks sliding, and sliding is something that rocks do. I explain the relevant notion of doing by appealing to a linguistic distinction between dynamic and stative verb phrases (§§2.4, 2.5).

### 2.1 Change

Many philosophers, including Kim, Lewis, and Bennett, suggest that the distinction between events and states is an invidious, shallow distinction. Others, such as Davidson, Lawrence Lombard, and Judith Thomson, take the distinction more seriously. Those who take it seriously usually take events to be *changes*; thus, they exclude states.<sup>29</sup> This view is simple and appealing. Since changes are normally taken to be changes in things, the view explains the correlation of events and things. And it also helps to clarify the relation that actions bear to their agents and rockslides bear to their rocks. If events are changes in things, then we could take the relation to be the relation that changes bear to the things they are changes in.

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<sup>29</sup> For example, Dretske 1969, pgs. 163–164, Slote 1975, chapter 3, Bunge 1977, Lombard 1979, 1986, Quinton 1979, Hacker 1981, Rimmon-Kenan 1983, pg. 156, Levison 1983, pgs. 174–175, Taylor 1985, Seddon 1987, chapter 4, van Inwagen 1993, pg. 26. For theories of events that exclude states but include some nonchanges, see Thomson 1977, Schmitt 1983, Steward 1997, chapter 3 and Skow 2018, chapter 2. Like me, Steward and Skow emphasize the importance of aspect, rather than change.

However, I worry that this is all *too* simple. The view that events are changes is on the right track, but it is too narrow a conception of events. My view is that all changes are events, but not all events are changes; events form a larger class of which changes are an important subclass.

The idea that events are changes has been developed in various ways. Lawrence Lombard develops in great detail a very restrictive view of events, on which events are changes in the intrinsic qualities of a single thing.<sup>30</sup> Although there may be some purposes for which it is useful to have such a narrow concept of an event, Lombard's account does not come close to matching our ordinary conception of an event. It classifies changes in location of a thing as nonevents (assuming that location is an extrinsic property). And it also appears to exclude events that involve change in multiple things, such as joint actions. If two people converse, for instance, then there is an event, their conversation, which involves change in the two people, but arguably is not a change in any single thing (unless we recognize the pair of the two people as a distinct entity, and take the conversation to be a change in the pair).

These cases could be accommodated by expanding the account to allow for relational and extrinsic changes. However, there are still events that are not changes—not even extrinsic changes. For instance, suppose that at noon, I go for a stroll through a park and, at 1 pm, end up back where I started. My stroll was not a change, as there is no relevant difference between the state of things at noon and at 1. Although some events are not identical to changes, a

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<sup>30</sup> Lombard 1986

plausible idea is that they are composed entirely of changes. This suggests the following approach. Changes are “urevents”—briefer, more basic events of which other events are composed. To be an event is to be an urevent or to be composed of urevents. My circular stroll is not a change, but it is composed of little changes in the position and orientation of my body (most relevantly, my legs), and these are urevents.

This invites some tricky questions. For any urevents, is there always some event that is their sum? Or are there restrictions on when urevents fuse to compose another event? And even before this, we have to ask: which changes count as urevents? Do radically extrinsic changes count? Although it is not obvious how we should answer these questions, this is not a problem specific to the idea that events are composed of changes. Any theorist about events faces similar questions. Anyone who believes in events faces the question of when some events compose another event.

The more serious worry about the view that urevents are changes is not that it is overinclusive, but rather that it excludes some events. Here is an example of an event that does not seem to involve change at all. Suppose that some object A exerts some force on another object B; perhaps A pulls on B gravitationally. Then there is an event, the exertion of force on B by A. But suppose that some other forces completely cancel out this force, preventing B from moving, or from changing at all. Then the exertion of force is a changeless event; it neither is a change nor is composed of changes.

Helen Steward gives another example:

Consider the concept of a *vigil*, taking that word in the sense where it designates a silent mass demonstration organized, for example, in protest at a war...‘Vigil’, in this sense, seems to me to be a noun entirely on a par with ‘wedding’, ‘funeral’, ‘picnic’, etc.; one can take part in a vigil, go to or on a vigil, hold a vigil, etc...But it seems most unhappy to say that a vigil is composed of changes. The whole idea is that everyone should be still and silent. Obviously, there *will* be changes occurring at the region of the vigil during the time at which the vigil takes place—metabolic changes in the participants and breathing, for example—but these do not seem to be parts of the vigil; the relevance considerations associated with the concept of a vigil would surely exclude them. ...It might be argued...that mental activity is to be regarded as a succession of mental changes—and so that the contemplation which occurs at the vigil is the source of the change which turns the vigil into an event. But this just seems wrong. If human beings were capable of sustained meditation on a single thought, and began that meditation just before the official beginning of the vigil, carrying it through until just after the official end, so that their thoughts underwent no change at all during the vigil itself, that would not make the vigil any less an event. It seems, then, that there can be events which neither are changes, nor are composed of changes.<sup>31</sup>

In addition to the force and vigil examples, there are other possible examples of events not composed of changes: among these are causings and preventings, motions (on an antireductionist view of motion), and perhaps volitions and other thoughts.

Someone who is wedded to the view that events (or just urevents) are changes may not be persuaded by these counterexamples. The counterexamples certainly can be resisted. But I also have a subtler reason why I do not think we should endorse the view that (ur)events are

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<sup>31</sup> Steward 1997, pgs. 69-70

changes. This view prematurely presupposes an answer to what I think is one of the deeper questions about events: the question of whether the “dynamic” aspects of reality reduce to mere successions of states. Let me explain.

All it is for a change to occur is for some things to change—for them to be one way at one moment and another way soon after. All it is for a change of the traffic light from red to green to occur is for the light to be red and then green. All it is for an object to change location is for it to be first at one location and later at another. Changes are nothing over and above the states that they are changes between. But it is not at all obvious that the same is true of events. If events are nothing over and above successions of states, then fundamental reality is “static”: motion, forces, and other “dynamic” phenomena are no part of fundamental reality. On the static picture of fundamental reality, the dynamic reduces to the static: motion, for instance, amounts to nothing more than a succession of positions at different moments.

This static picture of fundamental reality might turn out to be the correct picture. But even for those of us who are sympathetic to the static picture, it would be unwise to endorse a theory of events that entails that the static picture is correct. If at all possible, we should keep our theory of events neutral on deep questions about the nature of fundamental reality.

I want an account of events that definitely includes motions, exertions of force, vigils, and other events that arguably are not composed of changes. What is needed is something broader than change. I suggest that we take events to be cases not just of things suffering a change of properties, but of their *doing something*. Exertions of force are cases of things

exerting force, motions are cases of things moving, and thoughts are cases of things thinking. Exerting force, moving, and thinking are all “things that things can do”, and cases of things doing these are events. I am using “do something” in a very general sense—more general than philosophers normally use it—and I need to say much more to clarify what I mean. The remaining sections of Chapter 2 are devoted to explaining the relevant notion of doing something.

## **2.2 Doings and Act Types**

My view is best understood as a generalization of a point made by Jennifer Hornsby about the distinction between token actions and act types.

[T]he word “action” [has] a specific use in philosophy...it applies to things in the domain of events. In this use of “action”, the following are events that are (or may be) actions: Anna’s writing of the word “blue”, Peter’s setting light to the fuse, my eating of my breakfast. In ordinary English, however, these are not actions. For in ordinary English “actions” is used for things that people do. And a person does not relate to what she does as she relates to her action (in the philosophers’ sense just introduced): people do not do events. Anna does not do Anna’s writing of the word “blue”, for instance; rather what Anna does is this—write the word “blue”. Such a thing as write the word blue—or set light to a fuse, or eat breakfast—is repeatable; it is not a particular. Consider that someone other than Anna may write the word “blue”; and that Anna may write the word “blue” on several different occasions. But remember that Anna’s writing of the word “blue” at noon (say) is something to which no-one other than Anna is related as Anna is, and that it is something that cannot happen more than

once. Evidently enough, actions in the philosophers' sense must not be confused with the things people do.<sup>32</sup>

Later, Hornsby uses this distinction to make a point about the individuation of actions:

[T]here can be two different things that Mary does, so that Mary's doing one of them is (the same as) Mary's doing the other...[A] single event may be described as a person's doing one thing and described as her doing some other thing (and, perhaps, her doing some third and fourth things)...<sup>33</sup>

Hornsby's points all generalize beyond the actions of humans. Everything Hornsby says would make just as much sense if instead of Mary, Hornsby gave the example of a tree and its doings, or a fungus, or an electron. A tree might grow slowly toward sunlight, and thus grow away from the underbrush; growly slowly toward sunlight and growing away from the underbrush are two things the tree does. They are distinct; it is not the case that to grow slowly toward sunlight is to grow away from the underbrush. The tree's doing of one (its slow growth towards the sunlight) is identical to its doing of the other (its growth away from the underbrush). But this doing is an event; it is *not* something the tree does. We must distinguish the "things done" by the tree from the tree's doings.

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<sup>32</sup> Hornsby 1999, section 1. Thomson 1977 similarly emphasizes the point that we do not do our token actions. It is surprisingly easy to fall into the confusion between doings and things done. Even Davidson commits this error occasionally: in a reply to the paper of Hornsby's I just quoted (Davidson 1999, pg. 636), he wonders "what sorts of entities these doings...[these] universals, [these] *sorts* of actions...are" (his emphasis).

<sup>33</sup> As Davidson 1999, pg. 636 points out, Hornsby should have said "Mary's doing *of* one of them".

Using Hornsby's term "thing done" would result in some clunkiness, since I use the term "things" for particulars like trees and people. So where Hornsby would talk of "things done", I will usually use the term "act type".<sup>34</sup> I use "act type" to mean anything that something can do. I will mostly use the term "doing" for particulars like Anna's writing of the word "blue". Any doing is a doing of some act type at some time. And any doing is a doing by some doer or doers. When a tree grows slowly, the doing is the slow growth, the doer is the tree, and the relevant act type is growing slowly.

My proposal about events is that given a sufficiently broad conception of doing, every event is a doing, and every doing is an event. Exactly how broad this conception is will be the subject of the following sections. Both directions of this thesis will be surprising to some philosophers. The claim that every event is a doing will be surprising to most, since "doing" is rarely used so broadly. But the claim that doings are all events is also controversial.

*Causing an effect* is an act type; it is something that things can do. Yet many philosophers have assumed or asserted that causings are not events, and this has sometimes resulted in complications or unwarranted conclusions. For instance, Maria Alvarez and John Hyman argue that human actions are *causings*. They take causings only to be instantiations of a relation that can relate events, rather than events themselves, so they reject the orthodox view

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<sup>34</sup> Other terms for act types/things done are "activities" (Thomson 1977), "agenda" (Grice 1986), and "acts" (Skow 2018). Setiya 2013 uses the adjective "dynamic".

that actions are events.<sup>35</sup> On my view, all human actions and all causings are doings, so they are events.

Hugh Mellor, in his book *The Facts of Causation*, similarly assumes that causings are not events. One of the book's key theses is that causation is not a relation between events. (Instead, Mellor takes causation to relate facts.) One of Mellor's main arguments for this thesis emphasizes that some causation is *higher-order*. His example features Don, who is on a climb with several other climbers. Unfortunately, Don falls and dies, and as a result, the climb is halted. According to Mellor, the halting of the climb is caused by more causation: it is caused by the fact that Don's falling causes Don's dying. Mellor argues that we must take the cause here to be this fact, rather than an event, since the only relevant events here are the halting of the climb, Don's fall, and Don's death, and none of these causes the halting.<sup>36</sup> The most natural place to resist Mellor's argument is to say that there is another event—the causing of Don's death—and that this causing is the cause of the halting of the climb. And my view that doings are events says exactly this. Causing is an act type, and causings are doings of this act type—events.

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<sup>35</sup> Alvarez and Hyman 1998. See also Von Wright 1963, pgs. 35–36, Chisholm 1964, Bach 1980 (especially), Lowe 1983, and Hyman 2015.

<sup>36</sup> Mellor 1995, pg. 109. Although Mellor does not say this, I imagine that Don's fall and his death are each insufficient on their own, and even together, to stop the climbers from continuing onward. I imagine that the climbers are so callous or gung-ho that they would not be deterred if Don had a fatal heart attack; only his death-by-falling is enough to halt their climb.

### **2.3 Action in the Most General Sense**

My claim that all doings are events may be controversial, but it is nowhere near as controversial as my claim that all events are doings. Many philosophers are skeptical of action beyond the sphere of intentional action. They will balk at my talk of a tree or an inanimate object “doing something”, and they will reject a conception of doing so broad that all events are classified as doings.<sup>37</sup> Here is Wilfrid Sellars:

Only a being capable of deliberation can properly be said to act, either impulsively or from habit. For in the full and non-metaphorical sense an action is the sort of thing that can be done deliberately.<sup>38</sup>

Sellars’ second sentence appears to be false: misspeaking is a counterexample. In misspeaking, the speaker acts, although misspeaking is not the sort of thing that can be done deliberately or intentionally. But Sellars’ broader point here is commonly accepted. It is often thought that the most general sense of action is intimately tied to intentional action, and that only beings capable of intentional action can properly be said to act.

In particular, it is often thought that the most general sense of action is captured by Donald Davidson in his paper “Agency”.<sup>39</sup> Davidson points out that misspeaking falls under a category of action that is broader than intentional action, but closely tied to it. When someone misspeaks, miscalculates a sum, accidentally knocks over a teacup while emphasizing an

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<sup>37</sup> Nietzsche speaks derisively of the “popular” idea that lightning “acts”, and he says that “scientists do no better when they say ‘force moves’ [or] ‘force causes’” (Nietzsche 1998, I, 13).

<sup>38</sup> Sellars 1962, pg. 48

<sup>39</sup> Schlosser 2015, section 2 calls Davidson’s view the “standard conception” of action.

important point, or causes some unexpected collateral damage while carrying out a military operation, in doing so they have acted, despite doing none of these intentionally. Davidson gives an account of this: according to him, our actions are the events in our lives that can be redescribed as the doings of things we do intentionally. When I accidentally break a teacup, for instance, my breaking of the teacup is identical to my wild gesticulation.<sup>40</sup> And I gesticulate intentionally, in order to emphasize the point I am making in conversation.<sup>41</sup>

Some philosophers think that Davidson's notion of action is the limit of what can truly be called "action". In particular, it is common to distinguish what people "do" from what merely "happens to" or "befalls" them. Erasmus Mayr, for instance, begins his book

*Understanding Human Agency:*

It is one of the truisms about our life that there are things that we do and other things that happen to us. Persons eat their lunch, go to work, walk their dogs, or write books, but they also become hungry, are fired, are bitten by dogs on the street, or fall asleep. It is equally a truism about our life that there is a difference between doing something and having something happen to one, that it is not the same, whether one is fired or gives notice oneself, or whether one drives to work or is driven by a chauffeur.<sup>42</sup>

I certainly think that there is a distinction here. The distinction appears to be the same distinction between "a man's deeds...and mere happenings in his history" that Davidson hopes

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<sup>40</sup> "A man is the agent of an act if what he does can be described under an aspect that makes it intentional" (Davidson 1980, Essay 3, pg. 46).

<sup>41</sup> Using the apparatus of association that I develop in chapter 3, Davidson's notion of action might be formulated as follows. In doing  $\alpha$  at  $t$ , a person  $S$  *acts* just in case  $\langle S, \alpha, t \rangle$  is associated with some event that is associated with some  $\langle S, \beta, t \rangle$ , such that  $S$  does  $\beta$  intentionally at  $t$ .

<sup>42</sup> Mayr 2011, pg. 1

to capture (even though Mayr and Davidson have different views about what distinguishes deeds from mere happenings).<sup>43</sup>

There is a difference between writing a book and napping, and this difference can be drawn by saying that only the former is something you *do*. But there is also a difference between napping on the one hand and being fired, being a very tall person, and being from Iceland on the other hand. And this difference can also be drawn by saying that of these, napping is the only one you can do. It is perfectly normal to answer the question “what did you do so far this afternoon?” with “I napped for a while, though I never intended to fall asleep” or “I tripped and broke my toe”. And “what did you do just now?” can be answered with “I flinched reflexively, because of the bright light in my face”.<sup>44</sup> But “what did you do?” can never be answered with “I am from Iceland”; such an “answer” would at best be a rejection of the question.

We speak not only of what napping humans do, but also of what inanimate objects do. Broadly agential language is used to describe far more than intentional action. In ordinary English, we often talk of the “actions” of inanimate objects, and the word “agent” is more often used to refer to inanimate substances than to indicate the ability to act intentionally. We speak of chemical agents, of the action of muscles or other physical bodies, of how a substance behaves under certain conditions, and of what a machine does when you turn it on.

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<sup>43</sup> Davidson 1980, pg. Essay 3, pg. 42.

<sup>44</sup> For an example from a philosopher, Quinton 1973, pg. 349, while discussing the individuation of actions, imagines the following dialogue: “Jones has done something likely to prevent his winning at Wimbledon.’ ‘Oh, what?’ ‘Jones has broken his arm.’”

It is certainly true that we sometimes use talk of agents, agency, action, and doing while restricting our topic to intentional action or Davidsonian agency. This is true both in philosophical and ordinary speech. But this is not a more literal or “proper” use of agential language. It is simply a *restricted* use: “agent” is restricted to those capable of intentional action, and “action” and “doing” are restricted to include only actions in Davidson’s sense. There is, of course, nothing wrong with this restricted use; but equally there is nothing wrong with an unrestricted use of agential language. Most importantly, there is nothing wrong with talk of trees and acids and napping people “doing something”.

Having defended the legitimacy of such a broad notion of action, it remains to spell out what act types are. Some philosophers have theorized about action in a sense more general than Davidson’s sense. Fred Dretske, for instance, develops a notion of “behavior” which he defines as “endogenously produced movement”, and which is intended to include the non-intentional actions of living things, including “crickets, leeches, and even paramecia”, but not “stones, whose fate[s] are completely at the mercy of external forces”.<sup>45</sup> Dretske gives the example of bee stings:

A bee’s stinging a child qualifies as bee behavior, as something the bee does, not simply because M (penetration of the child’s finger by the bee’s stinger) occurs. For this can happen without the bee’s doing anything—if, for example, the child accidentally pokes its finger with the stinger of a dead bee. This would be a case of some external (to the bee) event’s causing M. To get bee behavior, to have something the bee does, the cause

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<sup>45</sup> Dretske 1988, pg. 7.

of M (stinger penetration) must come from within the bee.<sup>46</sup>

Dretskean behavior is too narrow for my purposes. I need act types to include not just the behavior of provoked bees, but also the behavior of acids, excited electrons, and stones that have just been kicked. For the doings of acids, electrons, and stones are events no less than the doings of bees.

Maria Alvarez and John Hyman have developed a broader notion of action than Dretske's. Their account of action rests on their view (which I share) that causes can be *things*; it is not only events that can cause. Alvarez and Hyman say that to act is to *cause*: a thing's actions are the exercises of its active causal powers.<sup>47</sup> Even this is too narrow for my purposes, however. There are events it fails to cover, such as the slow voyage of some space trash across the solar system, a particle's change in state, and, perhaps, volitions and other mental events.<sup>48</sup>

My notion of an act type must be even broader if the doings of act types are to cover all events. To achieve this breadth, I appeal to a distinction in linguistics between "dynamic" and "stative" verb phrases.

## **2.4 Dynamic Verbs**

One way to understand what act types are is to look at a certain cleft construction in English: "one thing NP did was VP", where NP is a noun phrase and VP is a verb phrase. For

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<sup>46</sup> Dretske 1988, pg. 2.

<sup>47</sup> Alvarez and Hyman 1998, Hyman 2015

<sup>48</sup> See Ginet 1990, chapter 1 on mental actions that are not causings and Hyman 2015, chapter 1 for an opposing view.

some VP, this construction is grammatical, whereas for others it is not. Consider “cause an explosion”, “calculate the sum”, “run”, “give away money”, and “shout at Agatha”—all of these can grammatically be substituted for VP. “What Ben did was shout at Agatha” is grammatical. By contrast, “be tall”, “be from Germany”, “love Callie”, “owe David money”, and “believe in Santa” cannot be substituted for VP. “What Sam did was believe in Santa” is ungrammatical. I suggest that exactly the verb phrases that can be grammatically substituted stand for act types. Act types are what can be done. The verb phrases I mentioned that cannot be substituted for VP stand for “static” repeatables: properties and relations like being tall and loving Callie.

This grammatical test categorizes verb phrases by their *lexical aspect*. Verb phrases that pass the test are *dynamic* verb phrases. “Cause an explosion”, “calculate the sum”, “run”, “give away money”, and “shout at Agatha”, are dynamic. The remaining examples—“be tall”, “be from Germany”, “love Callie”, “owe David money”, and “believe in Santa”—are *stative* verb phrases.<sup>49</sup> The dynamic/stative distinction is a central distinction in the linguistics literature on aspect, largely because whether a verb phrase is stative or dynamic determines which grammatical aspects it can take. In English, dynamic verb phrases can take two different grammatical aspects: the perfective aspect—”Jane ran”, “Ben shouted at Agatha”, “Susan

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<sup>49</sup> It is more common to talk of dynamic and stative verbs, rather than whole verb phrases. For my purposes, it is important that this cleft test classifies certain verb phrases as non-dynamic even though they are headed by dynamic verbs. “Allegedly murder Smith” is headed by the dynamic verb “murder”, but is not a dynamic verb phrase. This is as it should be: there is no such act type as allegedly murdering, and there is no such event as an alleged murder.

calculated the sum”—and the progressive aspect—”Jane was running”, “Ben was shouting at Agatha”, “Susan was calculating the sum”. By contrast, stative verb phrases cannot take the progressive aspect: “she is owing David money” and “he is believing in Santa” are ungrammatical.

The linguist David Dowty provides a number of tests for whether a verb or verb phrase is dynamic or stative.<sup>50</sup> For dynamic verb phrases, the answer to the test questions will be “yes”; for stative verbs the answer will be “no”. I have already mentioned two of the tests:

Cleft test: For a verb phrase VP, is “one thing it/he/she did was VP” grammatical?

Examples: “One thing he did was give away money” is grammatical.

“One thing she did was be tall” is ungrammatical.

Progressive test: Is “it/he/she was VPing” grammatical?

Examples: “Jane was running” is grammatical.

“Sam was believing in Santa” is ungrammatical.

Here are some other tests from Dowty:

Habituality test: Does “it/he/she VPs” normally take a habitual reading?

Examples: “Jane runs” is normally habitual; it says something about Jane’s daily, weekly, or maybe monthly schedule. “Sally knows the answer” is not habitual; it merely reports

Sally’s current epistemic situation.

Imperative test: Can “VP!” be an imperative?

Examples: “Run!” is an imperative. “Owe money!” is not an imperative.

Complement test: Is “it/he/she forced it/him/her to VP” grammatical?

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<sup>50</sup> Dowty 1979, section 2.2. Dowty uses the term “nonstative” instead of “dynamic”.

Variant: Is “it/he/she *persuaded* it/him/her to VP” grammatical?

Examples: “She forced/persuaded him to give away money” is grammatical.

“She forced/persuaded him to owe money” is ungrammatical.<sup>51</sup>

These tests are fairly rough heuristics, for at least three reasons. First, I am simplifying some of the tests. It is often thought that there is at least one special subclass of dynamic verb phrases that do not take the progressive aspect. These are verb phrases like “notice the spider”, which are “non-durative”: one notices things “in an instant”, so often there is not enough time for someone to *be noticing* a spider.<sup>52</sup> Thus the progressive test is often taken to distinguish dynamic durative verb phrases from stative verb phrases and dynamic non-durative verb phrases.

Second, even once the tests are properly refined, they have exceptions. A well-known exception to the progressive test is “love”: despite the stativity of “love”, McDonalds’ famous slogan, “I’m lovin’ it”, features “love” in the progressive. This is one instance of the phenomenon of the “expanding progressive”, which involves certain stative verbs starting to take on progressive uses over time.<sup>53</sup>

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<sup>51</sup> There are also a number of other possible complement tests: only dynamic verb phrases can head bare infinitival complements of perceptual verbs like “feel”, “see”, “hear”, and “notice”. “I noticed it move” is grammatical, but “I noticed it be large” is ungrammatical. See Parsons 1990, chapter 1.

<sup>52</sup> These are achievements in the sense of Vendler 1957: verb phrases that are telic but non-durative. Comrie 1976 also introduces another category of verb phrases that are atelic and non-durative, such as “cough” and “sneeze”, which he calls “semelfactives” (see also Smith 1991). Both types of non-durative dynamic verb phrases are supposed not to take the progressive aspect, though this is questionable: even “notice”, one of the most plausible examples of a genuinely non-durative dynamic verb, can take the progressive in such sentences as “I am noticing the effects of climate change more and more”. See Mourelatos 1978.

<sup>53</sup> The expanding progressive in English in the second half of the 20th century is well documented: see Hundt 2004.

Third, it is not really even verb phrases themselves that are dynamic or stative. It is a particular *use* of a verb phrase that is dynamic or stative. Many verbs have both dynamic and stative uses.<sup>54</sup> Consider “surround the castle”. If I say “the soldiers surrounded the castle”, this is a dynamic use; what I have said implies that at some point the soldiers were surrounding the castle. But consider “the forests surrounded the castle”, which can be true even if the forests were never in the process of surrounding the castle (imagine that the forests long predate the castle). I will mostly ignore this complication, since it is easy to imagine a language that “cleans this up” by adding one verb for dynamic uses and one for stative uses. For instance, we could add a subscript: instead of “surround”, we always use either “surround<sub>D</sub>” (for dynamic uses) or “surround<sub>S</sub>” (for stative uses).

Despite all these complications and caveats, it is remarkable that so many different tests divide verb phrases (or uses of verb phrases) along roughly the same line. This makes the dynamic/stative distinction an important distinction in linguistics, central to the study of aspect. And it is also important in metaphysics, because dynamic verb phrases stand for act types, whereas stative verb phrases stand for static properties and relations.

## **2.5 Is Aspect Worldly?**

In the philosophical literature on events, it is common to view the distinction between events and states as a shallow distinction—one that fails to “carve at reality’s joints”.

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<sup>54</sup> Mourelatos 1978, pg. 196 emphasizes this point.

Accordingly, many accounts of events are deliberately designed to include states, in order to avoid carving elsewhere than a joint.<sup>55</sup> On my view of events, the event/state distinction boils down to the dynamic/stative distinction, so whether the former is shallow depends on whether the latter is. In this section, I offer a brief defence of the depth and importance of the dynamic/stative and event/state distinctions.

Some features of language are not “worldly” or “joint-carving”: they fail to reflect any genuine aspect of reality. Here is one clear example. Many languages assign a gender to each of their nouns. For instance, “table” in Spanish is “*mesa*”, which is feminine. Gender can affect grammar in a number of ways; it can determine the declension of attributive adjectives, and it can determine which articles can precede the noun: “the table” is “*la mesa*” in Spanish, “*la*” being the feminine singular definite article. Noun gender is extremely unstable across languages. For instance, although “*mesa*” is feminine, the German word for “table”, “*Tisch*”, is masculine. The cross-linguistic instability of noun gender strongly suggests that noun gender is an arbitrary feature of language that does not reflect anything about reality. Unless we are

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<sup>55</sup> Lewis 1966, Kim 1976, Horgan and Woodward 1985. Similarly, Broad 1923, pg. 54, suggests that if we require that events be dynamic, we will end up drawing a “merely qualitative” distinction:

We usually call a flash of lightning or a motor accident an event, and refuse to apply this name to the history of the cliffs at Dover. Now the only relevant difference between the flash and the cliffs is that the former lasts for a short time and the latter for a long time. And the only relevant difference between the accident and the cliffs is that, if successive slices, each of one second long, be cut in the histories of both, the contents of a pair of adjacent slices may be very different in the first case and will be very similar in the second case. Such merely quantitative differences as these give no good ground for calling one bit of history an event and refusing to call another bit of history by the same name.

prepared to make the outrageous claim that German has the gender of “table” right and Spanish has it wrong (or vice-versa), we must admit that any one particular assignment of genders to nouns reflects reality no better than any other assignment. Noun gender does not carve at reality’s joints.

If the dynamic/stative distinction were unstable across languages, this would similarly suggest that the categorization of verb phrases by lexical aspect is arbitrary. If we discovered that “be red” or “be circular” can take the progressive in many languages, or that “run” or “drive” is stative in many languages, then this would make the dynamic/stative distinction look arbitrary. And on my view of events, what counts as an event would then appear to depend on the vicissitudes of language. My drive to the store might turn out to be an event if we go by some languages, but not if we go by others.

Fortunately for me, the dynamic/stative distinction is cross-linguistically fairly stable. “Drive” and “run” do not translate to stative verbs in other languages. Languages differ greatly with respect to *grammatical* aspect. For instance, English has the progressive aspect, but even a language as closely related as German lacks it, instead expressing imperfectivity in other ways.<sup>56</sup> But the categorization of verb phrases as dynamic or stative does not vary much across

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<sup>56</sup> Comrie 1976, pg. 8, gives an example:

The difference between English “he read the book” and “he was reading the book” can to some extent be captured in German by the difference between “er las das Buch” (which covers the semantic range of both of the English sentences) and “er las im Buch”, literally “he read in-the book”, which has explicitly the meaning of the English progressive “was reading”.

languages: dynamic verb phrases in English translate to dynamic verb phrases in other languages. The introduction to a recent anthology on aspect across languages sums it up:

Categories of lexical aspect are rather objective...[and] are somewhat stable across languages, whereas categories of grammatical aspect display significant variation from one language to another.<sup>57</sup>

Set aside the issue of cross-linguistic stability. There may be a completely different reason that philosophers have for ignoring the dynamic/stative distinction or downplaying its importance. They may think that by ignoring the distinction, they lose nothing. If they treat acts as just more properties, and states as “boring” events, what are they missing out on? In the remainder of this section, I will try to answer this question.

There are many areas in which the dynamic/stative and event/state distinctions are philosophically important.<sup>58</sup> I will mention three. First, some philosophers think that only events, not states, can be causes. Judith Thomson, for instance, says, “a state of affairs lies there, placidly and quietly”, causing nothing.<sup>59</sup> If this view is right, then it is important to distinguish events from states, at least if we want to determine the possible causes of any event. However, I am not convinced that the view is right; it is difficult to maintain that states cannot cause. For reasons I will give much later, I find it more plausible that states cannot be *effects*.

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<sup>57</sup> Patard, Peltola, and Roussel 2019, pg. 1

<sup>58</sup> The philosophical significance of the dynamic/stative distinction has been emphasized by a number of philosophers, including Ryle 1949, Vendler 1957, Kenny 1963, chapter 8, Steward 1997, chapter 3, Thompson 2008, chapter 2, Setiya 2013, 2016, introduction, and Skow 2018. The distinction arguably goes back to Aristotle: see Graham 1980.

<sup>59</sup> Similarly, Skow 2018, chapter 2 argues against causation by states. I am oversimplifying Thomson’s view: see §6.3.

This claim fits nicely with Dowty’s complement test. Dowty’s test says that dynamic verb phrases, but not stative verb phrases, can be complements of the verb “force”, suggesting that it is only possible to force something to *do something*. Things cannot be forced to have properties. Effects—or at least effects of a forceful cause—must be dynamic. (I return to this issue in §6.3.)

Second, Bradford Skow notes a connection between dynamic verbs and dispositions. Skow points out that the habituality test entails that dispositions are always dispositions to do something. Here is one argument he gives:

Michael Fara claimed that the dispositional ascription “X is disposed to M in C” entails the habitual “X Ms in C”...For example: “This barrel is disposed to roll when pushed” entails “This barrel rolls when pushed.” He wanted to use this idea to build an analysis of dispositions in terms of habituals. The details of his analysis aren’t important here. What’s important is what follows from the conjunction of his claim and the claim...that habituals must have active [dynamic] phrases in for “M.”<sup>60</sup>

There are no dispositions to have a property; there are only dispositions to act.

Third, the fact that dynamic and not stative verb phrases can occur in the progressive aspect has important implications for their role in teleological explanations. Teleological explanations make essential use of the progressive aspect (or other imperfective aspects). The primary form that teleological explanations can take is “A Ved because A *was Zing*”, or in the present tense, “A is Ving because A is Zing”.<sup>61</sup> For instance, we can say that a tree is growing a

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<sup>60</sup> Skow 2018, pg. 98. Fara 2005

<sup>61</sup> There are other forms that teleological explanations can take that do not use the progressive, such as “A Ved in order to Z”. But this entails “A Ved because A was Zing”; in that case, Z must not be stative.

branch on its left side because it is moving toward the sunlight. Teleological explanations of this form can also be given for intentional actions: borrowing an example from Michael Thompson, we can say that Thompson was mixing mortar because he was laying bricks, and that he was laying bricks because he was building a monument to the great works of Frege. Since stative verb phrases cannot take the progressive, Z cannot be a stative verb phrase. The explanans in a teleological explanation must be dynamic. Only by appealing to what something is *doing* can we teleologically explain its behavior.<sup>62</sup>

Thompson has emphasized the importance of this point for action theory. He floats a definition of intentional action in terms of a certain sort of teleological explanation. According to Thompson, S is Zing intentionally just in case there is some V such that S could answer the question “why are you Ving?” with “because I am Zing”. Since Z occurs in the progressive, it follows that Z must be dynamic. So a person can Z intentionally only if Z is dynamic. Only doing can be intentional.<sup>63</sup>

These are a few of the areas in which the dynamic/stative distinction is important. The dynamic/stative distinction is on solid footing linguistically, being cross-linguistically stable and central to the linguistics of aspect, and also philosophically, being important in

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<sup>62</sup> Thompson 2008, pg. 87

<sup>63</sup> Thompson 2008, part 2

metaphysics and action theory.<sup>64</sup> Since the event/state distinction boils down to the dynamic/stative distinction, the event/state distinction similarly is on solid footing.

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<sup>64</sup> One more example of the relevance of aspect to action theory: Setiya 2013 argues that there is no such thing as epistemic agency, emphasizing the point that “believe” is stative; believing is not something one can do.

## **Chapter 3: Events are Doings**

In this chapter, I present a theory of events, focusing on the individuation of events. My theory, like Jaegwon Kim's theory, makes crucial use of the idea that events are "associated" with triples. However, my view differs from Kim's on two key points. First, on my view, the second entry of each triple must be an act type, rather than a "genuine property". Second, the association of triples with events is not one-to-one. In fact, association is unique in neither direction: any event is associated with multiple triples, and many triples are associated with more than one event. Giving up on the uniqueness of event-triple association has some surprising benefits: it sheds light on the determinate-determinable relation (§3.4), and it allows for a better formulation of token physicalism (§3.5).

### **3.1 Doings and Their Names**

An awkwardness in Kim's theory is that when we find ourselves presented with some particular event, it is rarely if ever clear *which* triple should be associated with the event. Consider Ben's loud, rude shout at Agatha at noon. What is its triple? The first and third entries are clear; presumably they are Ben and noon. But what about the second entry: which property (or rather, act type) of Ben's should we choose? Shouting? Shouting at Agatha? Shouting rudely? I have no clue how to decide.

Kim will say that we have many events here—one for each of these act types. (There is still the question of which of these many events we pick out with our words and thoughts: what does “Ben’s loud, rude shout” refer to?) But an alternative view is that there is just one event that is associated with distinct triples. Ben’s shout is associated with  $\langle \text{Ben, shouting, noon} \rangle$ , with  $\langle \text{Ben, shouting at Agatha, noon} \rangle$ , and with  $\langle \text{Ben, shouting loudly, noon} \rangle$ , among many other triples. If an event is associated with a triple  $\langle A, \alpha, t \rangle$ , where  $\alpha$  is an act type, then I will sometimes report this using philosophical jargon: the event is a “doing of  $\alpha$  by  $A$  at  $t$ ”. Ben’s shout is a “doing of shouting” by Ben at noon, and also a “doing of shouting at Agatha” by Ben at noon.

The problems we find with Kim’s theory do not suggest that we should give up on Kim’s idea of associating events with triples. Rather than saying that each event is not associated with any triples, we should take each event to be associated with many. The cost of this is theoretical complexity: because each event is associated with multiple triples, my theory of events cannot be as simple and straightforward as Kim’s. But I hope to show that this is not a serious cost. I will provide a theory of events that shares the main virtues of Kim’s—in particular, triples are used to give criteria of identity, application, and existence—while offering entities that could plausibly include familiar events like Ben’s rude shout.

The coarse-grained theory I offer individuates events by appealing, indirectly, to the coreference of perfect nominals. Certain sentences, though not all, have perfect nominalizations. A definite perfect nominalization of the sentence “Ben shouted at noon” is

“the shout of Ben’s at noon”; another is “Ben’s shout at noon”. Although there is never a unique perfect nominalization of a given sentence, any two perfect nominalizations necessarily corefer: “the shout of Ben’s at noon” necessarily corefers with “Ben’s shout at noon”.

The mechanics of perfect nominalization are rather complicated, but here are some rough rules. Adverbs are replaced by attributive adjectives: “Ben shouted loudly” becomes “Ben’s loud shout”. Adverbial prepositional phrases become adjectival prepositional phrases: “Ben shouted at Agatha” becomes “Ben’s shout at Agatha”. Direct objects become the objects of the preposition “of”: “Jones murdered Smith” becomes “Jones’s murder of Smith”. Subjects are more complicated: if a noun phrase is the subject of the sentence, it can be replaced by a possessive, as in “Ben’s shout”, or it can be the object of “by”, as in “the murder of Smith by Jones”, or the possessive can be the object of “of”, as in “the shout of Ben’s”. Verbs are complicated too: sometimes they are replaced by gerunds, as in “the killing of Smith”, whereas other times they are replaced by event nouns like “coronation” and “death”.

Some perfect nominals, though not all, refer to events. Assuming that Ben shouted only once at noon, “Ben’s shout at noon” refers to an event, though “Park’s alleged murder of Smith at midnight” does not refer to an event if Park is only allegedly a murderer. Let us restrict our attention to perfect nominals that refer to events. Furthermore, let us restrict our attention to perfect nominalizations of full sentences. “Ben’s shout at noon” is the nominalization of the sentence “Ben shouted at noon”,<sup>65</sup> but “the shout” is only the

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<sup>65</sup> I am arbitrarily choosing to use the past tense of “shout” here. Imperfect nominals like “Ben’s shout at noon” might be better understood as nominalizations of untensed sentences.

nominalization of the verb “shout”, not of a full sentence. In particular, let us restrict our attention to the nominalizations of sentences of the form “N VP at t”, where N is a referring term. If X is the nominalization of such a sentence, and X refers to an event E, then call X a *canonical name* for E. “Ben’s shout at noon” is a canonical name for the shout, whereas “the shout”, “the especially loud shout”, “the cause of Agatha’s reply”, and “Agatha’s least favorite event” are not canonical names for the shout.

The key idea is that any canonical name for an event determines a triple with which the event is associated. If a canonical name is the nominalization of “N VP at t”, and “N” refers to A, “VP” stands for an act type  $\alpha$ , and “t” refers to time t, then the canonical name determines the triple  $\langle A, \alpha, t \rangle$ . The canonical name “Ben’s shout at noon” is the nominalization of “Ben shouted at noon”. “Ben” refers to Ben, “shouted” refers to the act type shouting, and “noon” refers to noon, so the canonical name determines the triple  $\langle \text{Ben}, \text{shouting}, \text{noon} \rangle$ . This triple is then associated with the shout.

I claim that every event, in theory, could be given a canonical name, and thus is associated with some triple. In fact, every event has many canonical names, and many associated triples. “Smith’s death at midnight” and “Smith’s sudden death at midnight” determine  $\langle \text{Smith}, \text{dying}, \text{midnight} \rangle$  and  $\langle \text{Smith}, \text{dying suddenly}, \text{midnight} \rangle$ . Smith’s death is associated with each of these triples. Association is not unique.

Association is sometimes, but not always, unique in the converse direction; a triple may be associated with only one event, or with more than one. Since Smith only ever died once,

<Smith, dying, midnight> is associated with a unique event. But consider <Jones, murdering someone, midnight>: if Jones commits mass murder, then unfortunately there may be multiple events associated with this triple. In general, the more determinate the second entry of a triple is, the more likely it is that the triple is associated with a unique event. Murdering someone can be done multiple times, even simultaneously, but murdering Smith cannot be.

So far, I have focused on definite nominals that refer to a particular event, such as “the shout” and “the murder by Jones at midnight”. But there are also indefinite perfect nominals, like “a murder by Jones”. If the predicate “is a murder by Jones at midnight” is true of an event E, then E is associated with the triple <Jones, murdering someone, midnight>. Since “is a murder by Jones at midnight” may be true of multiple events, multiple events may be associated with the triple. More generally, if “is an M” is true of E, where “an M” is an indefinite perfect nominalization of “N VP at t”, and “N” refers to a thing A, “VP” stands for an act type  $\alpha$ , and “t” refers to time t, then E is associated with <A,  $\alpha$ , t>.

This provides a rough guide to determining which triples are associated with which events. If you know how to use perfect nominals, then this guide should help you to understand association; it should illustrate which events are associated with which triples. This is only a heuristic, however, not a definition of “association”. Like Kim, I take “association” to be a primitive concept. But unlike Kim, I try to render this concept intelligible by showing its connection to the reference of perfect nominals.

If association is intelligible, then it is a powerful tool. Like Kim, I can use the association of events with triples to give criteria of existence, application, and identity for events.

### **3.2 The Criteria**

Every event is associated with many triples, and sometimes two events are associated with some of the same triples. However, no two events are ever associated with *all* the same triples. For instance, if there are two murders by Jones at midnight, these murders are still associated with some different triples. If both Smith and Park are among Jones's victims, then only one of the murders is associated with  $\langle \text{Jones, murdering Smith, midnight} \rangle$ , and only the other is associated with  $\langle \text{Jones, murdering Park, midnight} \rangle$ .

We can use this point to give an identity criterion:

Identity Criterion (first pass):  $E = C$  just in case: for every thing  $A$ , act type  $\alpha$ , and time  $t$ ,  $E$  is associated with  $\langle A, \alpha, t \rangle$  just in case  $C$  is associated with  $\langle A, \alpha, t \rangle$ .

No two events can be associated with exactly the same triples.

We can also give criteria of application and existence that are essentially the same as Kim's:

Application Criterion (first pass): For any  $E$ ,  $E$  is an event just in case there is some triple  $\langle A, \alpha, t \rangle$  for some thing  $A$ , act type  $\alpha$ , and time  $t$ , such that  $A$  does  $\alpha$  at  $t$ , and  $E$  is associated with  $\langle A, \alpha, t \rangle$ .

Existence Criterion (first pass): There is an event  $E$  associated with  $\langle A, \alpha, t \rangle$  just in case  $A$  does  $\alpha$  at  $t$ .

I think that these three criteria are basically right, though some wrinkles need to be addressed.

There are two sorts of objections that philosophers may have to these criteria. The first sort of objection is extensional: it says that the criteria are false. The second sort of objection is that the criteria, regardless of their truth-values, fail *as criteria*. I will focus on extensional threats for now, and specifically on the main extensional threat: that some events may not be associated with *any* triple of the form  $\langle A, \alpha, t \rangle$ . If any event is not associated with any triples, then my existence and application criteria are false, and if more than one event is not associated with any triples, then my identity criterion is false as well. In this section, I address two minor worries of this sort, and I make some modifications to my criteria. In §3.3, I deal with a more sweeping objection.

One worry is that my criteria fail to account for doings by multiple things together. If some soldiers encircle a castle at dawn, then there is an encirclement of the castle by those soldiers. This cannot be represented by a triple  $\langle A, \alpha, t \rangle$ , where  $A$  is a single soldier, because there is no soldier that encircles the castle; the castle is much too big for single-person encirclement. Instead, I suggest associating the encirclement with a triple whose first entry is a set:  $\langle \text{the set of the soldiers, encircling the castle, dawn} \rangle$ . We can expand the sorts of triples that are associated with events, allowing first entries to be sets.

Now, the encirclement may *also* be associated with a triple whose first entry is a single thing, rather than a set of things. If there are enough soldiers, then the encirclement may also be an encirclement by the *army*. In that case, the encirclement is associated with <the army, encircling the castle, dawn>. If *every* doing by some things together were a doing by a single thing, then it would not be necessary to allow first entries to be sets of things. But arguably there are some doings by some things together that are not associated with any triple with a single thing in the first entry. For instance, if I lift up one end of a large sofa, and a small crane appears out of nowhere and helpfully lifts up the other end, then the lifting of the sofa is a doing by the crane and me together. Many philosophers will say that there is no object “me-plus-the-crane” that does the lifting. Accommodating the view that there is no such object requires allowing events to be associated with triples whose first entry is a set of things (in this case, the set of the crane and me). In light of this, we should revise the three criteria to include triples in which the first entry is a set of things, rather than a thing.

Another wrinkle is that some philosophers think that given any events, there is a mereological sum of them, and the sum is a composite event.<sup>66</sup> Many composite events—most composite events we would normally be interested in—are associated with triples. A stroll of mine in the evening is the sum of many swings of my legs and tiny changes in my location, and the stroll is associated with <me, strolling, the evening>. But arguably there are some sums of events that are not associated with any triple. For instance, consider my stroll and the much

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<sup>66</sup> Thomson 1978, pgs. 78–79

earlier, far away murder of Smith by Jones. The sum of these, if there is such an event, does not seem to be associated with any triple. It is not a murder by Jones, nor is it a stroll of mine. This “murder+stroll” is not a familiar event, but there may also be examples that are familiar events. World War II has parts that are associated with such triples as <the German army, invading Poland, October 1939> and <the German army, sieging Leningrad, 1941–1944>, but it is not clear which triples, if any, World War II itself is associated with.

Instead of taking the murder+stroll to be associated with any triple, we can take the murder+stroll to be associated with *sets* of triples, such as {<Jones, murdering Smith, midnight>, <me, strolling, the evening>}. Similarly, wars are associated with sets of triples that are associated with their various battles, invasions, and other parts. World War II is associated with a set that has <the German army, invading Poland, 1939> as one of its elements. More generally, if E is the sum of  $E_1 \dots E_n$ , which are associated with triples  $t_1 \dots t_n$ , then E is associated with  $\{t_1 \dots t_n\}$ .

Given these modifications to accommodate composite events and doings by multiple things together, the three criteria must be modified as well. They are now more cumbersome to state:

Application Criterion (modified): For any E, E is an event just in case there is some triple or set of triples that are either of the form <A,  $\alpha$ , t> for some A, act type  $\alpha$ , and time t, such that A does  $\alpha$  at t, or of the form <S,  $\alpha$ , t>, such that  $S = \{\text{the AA}\}$ , and the

AA are some things that together do  $\alpha$  at  $t$ , and  $E$  is associated with the triple or set of triples.

Existence Criterion (modified): There is an event associated with  $\langle A, \alpha, t \rangle$  just in case  $A$  does  $\alpha$  at  $t$ ; there is an event associated with  $\langle S, \alpha, t \rangle$  just in case  $S = \{\text{the AA}\}$  and the AA together do  $\alpha$  at  $t$ ; and there is an event associated with a set of triples  $\{t_1 \dots t_n\}$  just in case there are events  $E_1 \dots E_n$ , which are associated with triples  $t_1 \dots t_n$ , and  $E_1 \dots E_n$  have a mereological sum.

Identity Criterion (modified): Event  $E =$  event  $C$  just in case  $E$  and  $C$  are associated with all the same triples and sets of triples.<sup>67</sup>

I endorse these modified criteria. However, even after these modifications, an extensional threat remains. This threat is deeper, in that it cannot be dealt with by modifying the criteria. And it is broader: it makes trouble not just for my criteria, but also for Kim's. The threat is that some events may be "thingless".

### **3.3 Thingless Events, Spacetime Worms, and Quantum Flashes**

Some philosophers have suggested that there are "thingless" events. P. F. Strawson in particular is often credited as having given examples of them.<sup>68</sup> Strawson tells us:

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<sup>67</sup> This identity criterion is true only if composition of events is *unique*—if any events that have a sum have a unique sum. Otherwise, two distinct sums of the same events would be associated with the same sets of triples.

<sup>68</sup> For instance, Lowe 2002, pgs. 240–241 takes Strawson's flash of light to be a purported example of a "subjectless" event.

Another distinction...is...between...events and processes which...necessarily are of, or performed or undergone by, material bodies or things possessing material bodies, and events and processes not of this kind. Thus a death is necessarily the death of some creature. But that a flash [of light]...occurred does not entail that anything flashed.<sup>69</sup>

Strawson may be right that no things need to *flash* when a flash occurs. But that does not mean that a flash is thingless. A flash presumably is not thingless, for a flash consists in the activity of some photons. Photons neither possess nor are material bodies, and Strawson is specifically talking about material bodies and their possessors here. But photons are *things*, as opposed to events, so flashes are not thingless events. More generally, so long as we have a broad enough conception of things—including gravitational and electromagnetic fields, waves, and particles, and matter of all states—familiar events will not be thingless.

There may, however, be other, more theoretical reasons to believe in thingless events. Certain theories in metaphysics and in the philosophy of physics take event-like entities to be fundamental entities. Being fundamental, these entities do not depend ontologically on things; they are not changes in or doings by things. One theory that takes event-like entities to be fundamental is perdurantism, the view that things that exist for a duration of time are spacetime worms composed of short-lived entities. According to perdurantism, people are composed of instantaneous “person-stages”, and rocks are composed of instantaneous rock-stages. These stages have sometimes been thought to be events, or at least event-like, due

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<sup>69</sup> Strawson 1959, pg. 46

to their abrupt nature. Like many events, but unlike people, person-stages are fleeting.<sup>70</sup> And if person-stages are events of which people are composed, then they are not doings by some further things. They are thingless events.

I accept that person-stages are not doings, but I deny that they are events. The very fact that stages are not doings makes them quite different than concerts, avalanches, and other familiar events. The key feature uniting familiar events is that they are doings of act types by things in time. Stages lack this feature. So rather than classifying stages as events, we should classify them as ephemeral things: person-stages are like people, but tragically short-lived. And I am inclined to think that this same reasoning will apply to other theories that posit fundamental entities that seem event-like.<sup>71</sup> For instance, one interpretation of quantum mechanics, GRW-flash, has a fundamental ontology of entities called “flashes”. The name at least suggests that flashes are events.<sup>72</sup> But if flashes cannot plausibly be taken to be doings, then this is a reason to deny that they belong to the same ontological category as concerts and avalanches.

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<sup>70</sup> A more extreme claim is that on perdurantism, all things are events, including ordinary persisting entities like people and rocks, since they are like familiar events in having temporal parts.

<sup>71</sup> Bunge 1977, pg. 273 argues that “science...provides no ground for hypothesising the existence of thingless events.”

<sup>72</sup> Esfeld and Gisin 2013 (pg. 261) say that “[t]he flash ontology is not an ontology of particles, but an ontology of events.” The GRW-flash theory was proposed in Bell 1987, though the term “flash” comes from Tumulka 2006. See also Allori et al. 2008.

### **3.4 Individuation, Determinables, and Total Set Structure**

Let me now turn to objections to my criteria *as criteria*—objections that charge them with a failure to do what is expected of criteria. The application criterion and existence criterion are (just about) the same criteria that Kim endorses, so I doubt that they are vulnerable to such objections. So long as association with triples is intelligible, and the application and existence criteria are true, they are good criteria. But it is not so clear that my identity criterion, even if true, lives up to what we should expect from an identity criterion. On its own, my identity criterion leaves open quite a lot about the individuation of events.

Say that a set of triples is the *total set* of E just in case it is the set of exactly the triples and sets of triples that are associated with E. The worry for me is that I have not said much about the possible internal structure of a total set. If  $\langle A, \alpha, t \rangle$  is associated with some event, then which other triples must be associated with it? And which other triples cannot be associated with it? My identity criterion, taken in isolation, leaves these completely open. As far as the criterion on its own is concerned, it may be that two events are associated with the same triples whenever they occupy the same spatiotemporal region; in that case, Quine's very coarse-grained spatiotemporal criterion is right. My criterion is equally compatible with much more fine-grained criteria as well, if there are enough total sets. For instance, if for each triple, the triple's singleton set were a total set, then I would end up individuating events at least as finely as Kim does. Only when the identity criterion is supplemented by further claims about which events are associated with which triples does it help us to individuate events.

If nothing could be said about the possible structures of total sets, then my identity criterion would not tell us much about individuation. And although I have given examples of association, so far I have not explicitly said much about the possible structures of total sets. So in this section, I will provide some principles that give necessary conditions governing the structure of total sets. Some of the more interesting principles governing total sets concern determinates and determinables.

The principles governing total sets can be divided into “exclusive” and “inclusive” principles. Exclusive principles say that some triples cannot belong to any total set, whereas inclusive principles say that some triples must belong to any set to which certain other triples belong.

Here are two very straightforward exclusive principles:

Time-uniqueness:  $\langle A, \alpha, t \rangle$  and  $\langle B, \beta, t' \rangle$  belong to the same total set only if  $t = t'$ .

Factivity:  $\langle A, \alpha, t \rangle$  belongs to a total set only if  $A$  does  $\alpha$  at  $t$ .

Here is an inclusive principle governing determinable act types, which should be fairly uncontroversial:

Universal Determinable Inclusion: If  $\alpha+$  is some determinable of which  $\alpha$  is a determinate and  $\langle A, \alpha, t \rangle$  belongs to a total set, then  $\langle A, \alpha+, t \rangle$  also belongs to the total set.

This is a universally quantified inclusive principle; it says that  $\langle A, \alpha, t \rangle$  is accompanied by all triples  $\langle A, \alpha+, t \rangle$ . For instance, if  $E$  is associated with  $\langle \text{me, guzzling the milk, noon} \rangle$ , then it is

also associated with <me, drinking the milk, noon> and also (even less determinately) <me, ingesting a beverage, noon>.

Now, here is a plausible *existential* inclusive principle:

Existential Determinate Inclusion: If  $\alpha$  is a determinable act type and  $\langle A, \alpha, t \rangle$  belongs to a total set, then there is an act type  $\alpha^-$  that is a determinate of  $\alpha$  such that  $A$  does  $\alpha^-$  and  $\langle A, \alpha^-, t \rangle$  belongs to the total set.

For instance, if <me, drinking the milk, noon> is associated with E, then there must be some more determinate way in which I drank the milk, such that <me, the determinate, noon> is associated with E. The determinate could be guzzling the milk; then <me, guzzling the milk, noon> is associated with E. Or it could be sipping it, or slurping it, or some determinate for which we have no name.

Notice that the following universal variant on Existential Determinate Inclusion is *false* (falsity is indicated by the # sign):

# Universal Determinate Inclusion: If  $\alpha^-$  is some determinate of which  $\alpha$  is a determinable, and  $\langle A, \alpha, t \rangle$  belongs to a total set, and  $A$  does  $\alpha^-$  at  $t$ , then  $\langle A, \alpha^-, t \rangle$  also belongs to the total set.

This is false in cases in which there are two different events associated with  $\langle A, \alpha, t \rangle$ . Suppose that simultaneously, I guzzle and sip a beverage, guzzling it through a straw while sipping it slowly with the opposite corner of my mouth. Then the guzzling is associated with <me, drinking the milk, noon> but not with <me, sipping the milk, noon>. To sum up the last few

principles: association with an event is preserved under all decreases in determinateness, but only under some increases in determinateness.

There is also an important *exclusive* principle governing determinate act types. If  $\alpha$  and  $\beta$  are determinates of some determinable, let us say that  $\alpha$  and  $\beta$  “compete” just in case neither  $\alpha$  nor  $\beta$  is a determinate of the other, and there is no  $\gamma$  that is a further determinate of both  $\alpha$  and  $\beta$ . For instance, orange and purple are competing determinates of color, guzzling a beverage and sipping it are competing determinates of drinking it, and singing at a high pitch and singing at a low pitch are competing determinates of singing (at some pitch or other). Now here is the exclusive principle:

Determinate Competition: If  $\alpha$  and  $\beta$  are competing determinates of a common determinable, then  $\langle A, \alpha, t \rangle$  and  $\langle A, \beta, t \rangle$  do not belong to any of the same total sets.

For example, no guzzling of a beverage is also a sipping of it.<sup>73</sup>

Many philosophers believe that competing determinates are governed by a simpler principle:

# Incompatibility Principle: If  $\alpha$  and  $\beta$  are competing determinates of a common determinable, then nothing can do both  $\alpha$  and  $\beta$  at the same time.<sup>74</sup>

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<sup>73</sup> There is, perhaps, also an event that is the sum of the guzzling and the sipping, the “entire drinking”. But it is neither a guzzling nor a sipping, just as a war composed of some battles is not a battle.

<sup>74</sup> This is often stated “determinates *on the same level* are incompatible”. But formulated that way, the principle is more straightforwardly false. Purple and pink may be on the same level but overlap by sharing the determinate magenta.

If the Incompatibility Principle were true, then Determinate Competition would be an uninteresting consequence, since A would do at most one of  $\alpha$  and  $\beta$  at t. If the Incompatibility Principle were true, we could provide a principle that is stronger than Determinate Competition:

# Determinate Incompatibility: If  $\alpha$  and  $\beta$  are competing determinates of a common determinable, then either  $\langle A, \alpha, t \rangle$  or  $\langle A, \beta, t \rangle$  is not associated with any event.

However, the Incompatibility Principle is false, as is Determinate Incompatibility. *Some* competing determinates are incompatible: being entirely orange and being entirely blue compete, and these cannot be instantiated simultaneously by a single thing. But as I mentioned before, guzzling and sipping are compatible; with sufficient skill, it is possible to guzzle and sip a beverage simultaneously. (Similarly, it is possible to sing at a low pitch and to sing at a high pitch simultaneously, if the entity that does the singing is a singer capable of the technique of throat singing, or if the entity is a group of singers.)

Some philosophers firmly committed to the Incompatibility Principle might take this to show that guzzling and sipping (and singing at a high pitch and singing at a low pitch) are not competing determinates. Since neither sipping nor guzzling is a determinate of the other, and they share no determinates in common, these adherents to the Incompatibility Principle would say that sipping and guzzling are not even determinates of drinking at all. Someone who denies that they are determinates of drinking might point out that the properties *being a guzzling* and *being a sipping*—properties of events which are incompatible—are determinables

of *being a drinking*. And one might claim that these properties of events are the *only* determinates in the vicinity; the real determinate-determinable structure is found among the properties of events, rather than the act types.

I have four responses to the claim that guzzling is not a determinate of drinking. First, I have many reputable philosophers on my side. Drinking is a common example of a determinable, and guzzling is an equally common example of one of its determinates.<sup>75</sup> Second, the Incompatibility Principle is already controversial, so the fact that guzzling and sipping are compatible does not seem to be enough on its own to establish that they are not determinates of drinking.<sup>76</sup> Third, the relation that guzzling and sipping bear to drinking has all the *other* structural properties commonly thought to be instantiated by the determinate–determinable relation. Jessica Wilson provides fifteen structural principles governing the determinate–determinable relation, one of which is the Incompatibility Principle. The other fourteen principles are satisfied by the relation that holds between guzzling and drinking; only the Incompatibility Principle is not.<sup>77</sup>

Fourth, even if it is insisted that the determinate–determinable relation must satisfy the Incompatibility Principle, we can come up a new notion, “determinate–determinable\*”, which is the result of starting with the determinate–determinable relation and logically

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<sup>75</sup> Yablo 1992, pg. 435, Shoemaker 2001, McLaughlin 2007

<sup>76</sup> See Armstrong 1978, pg. 113, Wilson 2013.

<sup>77</sup> Wilson 2017. A few of these principles are that the determinate-determinable relation is a strict partial order, that determinates are not conjunctively definable, that determinables are not disjunctively definable, that every determinate competes with another determinate, and that instantiating a determinate entails instantiating a determinable, but not vice-versa.

subtracting the requirement that the Incompatibility Principle is satisfied. What is left over is a relation that satisfies the other structural principles governing the determinate–determinable relation, but which need not satisfy the Incompatibility Principle.<sup>78</sup> So guzzling is still a determinate\* of drinking, and any determinate of  $x$  is also a determinate\* of  $x$ . Then determinates\* satisfy Determinate Competition: if  $\alpha$  and  $\beta$  are competing determinates\*, then  $\langle A, \alpha, t \rangle$  and  $\langle A, \beta, t \rangle$  do not belong to any of the same total sets. Interestingly, although determinates\* like guzzling do not satisfy the Incompatibility Principle, the properties of events like *being a guzzling* inherit the structural principles governing act types like guzzling and sipping, while also being incompatible.

To understand the individuation of events, we need to appeal to the determinate–determinable relation. Principles governing total sets feature the relation prominently. In the opposite direction, understanding the determinate–determinable relation, and in particular understanding the sense in which guzzling and sipping compete, requires having the right view of the individuation of events. Although I introduced “compete” as a technical term, there is an intuitive sense in which guzzling and sipping are really in competition. This intuitive sense is captured by Determinate Competition: no event can be a doing both of guzzling and of sipping.<sup>79</sup>

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<sup>78</sup> Admittedly, there is no guarantee that logical subtraction will result in a unique relation—not unless we take the determinate-determinable relation to be defined conjunctively, so that it holds between  $x$  and  $y$  just in case  $x$  is a determinate\* of  $y$  and  $y$ 's other determinates that compete with  $x$  are incompatible with  $x$ .

<sup>79</sup> I have focused on determinate and determinable act types and events. What I have said can be extended to properties and token states, assuming that there are such entities as token states.

One consequence of Determinate Competition is the falsity of Quine's coarse-grained criterion of identity. Quine says that no two events can occur in the same region of spacetime. But there can there be competing determinates  $\alpha$  and  $\beta$  such that  $\langle A, \alpha, t \rangle$  and  $\langle A, \beta, t \rangle$  correspond to events that occur in the same region. For instance, if someone throat sings, producing both a low and a high pitch, then her singing at a low pitch and her singing at a high pitch are distinct events. Determinate Competition says that  $\langle A, \alpha, t \rangle$  and  $\langle A, \beta, t \rangle$  cannot be associated with the same event if  $\alpha$  and  $\beta$  compete, so the two triples are associated with distinct events that occur in the same region of spacetime.

So far I have focused on principles governing the second entry of triples. There are also principles governing the first entry; in particular, these govern the relationship between doings by wholes and doings by their parts. Let me just state one plausible such principle. It is a universal inclusive principle:

Sum Inclusion: If  $\langle \text{the } BB, \beta, t \rangle$  belongs to a total set, and  $A$  is the mereological sum of the  $BB$ , and  $A$  does  $\alpha$  at  $t$  wholly in virtue of the  $BB$  doing  $\beta$  at  $t$ , then  $\langle A, \alpha, t \rangle$  belongs to the total set.<sup>80</sup>

For instance, an army that surrounds a castle at dawn does so wholly in virtue of some soldiers surrounding the castle at dawn, so  $\langle \text{the army, surrounding the castle, dawn} \rangle$  is associated with any event that is associated with  $\langle \text{the soldiers, surrounding the castle, dawn} \rangle$ .

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<sup>80</sup> By "wholly in virtue of", I mean full ground in the sense of Fine 2012.

The principles I have provided give some necessary conditions for being a total set. I have not given necessary and sufficient conditions; my principles leave quite a lot open about the possible structures of total sets. One might complain that *any* flexibility is too much. But there are actually reasons to *prefer* that our general theory of events leave some degree of flexibility regarding which sets can be total sets. For there are certain specific first-order philosophical theses that can be understood as principles governing the structure of total sets. And in theorizing generally about events, it is better to remain neutral on whether these theses are true. One such thesis is token physicalism, according to which every event (most relevantly, every mental event) is a physical event.

### **3.5 Token Physicalism and Steward's Secret Lives**

Token physicalism is a moderate form of physicalism that says that all *particulars* are physical particulars. This includes things like people, but more relevantly, it includes mental events like decisions, changes in belief, throbs of pain, and intentional actions. According to token physicalism, these are all physical events; pain events, for instance, may be firings of C-fibers. Token physicalism contrasts with *type* physicalism, which requires that mental *repeatables* all be physical repeatables, including deciding, believing something, feeling pain, and acting intentionally, as well as being a decision, being a change in belief, being a throb of pain, and being an intentional action. Token physicalism is an interesting and distinctive thesis precisely because it is neutral on whether mental repeatables are physical. Token physicalists

take our world to be an entirely physical world, at least when it comes to particulars, without making the more contentious claim that feeling pain and thinking are physical repeatables.

There has been much controversy over whether token physicalism really counts as a genuine form of physicalism, and over whether it is a viable form.<sup>81</sup> I am interested in a slightly different question: whether it is a form of physicalism that is logically independent from type physicalism. Fred Feldman and Helen Steward have argued at length that given Kim's conception of events, token physicalism collapses into type physicalism. For Kim, token physicalism entails type physicalism; losing its independence.<sup>82</sup>

Here is Steward's argument:

On Kim's view, if events are to be identical, they must be exemplifications of the same property by the same substance at the same time. If a mental event is to be identified with a physical event, on Kim's account of events, therefore, it would seem that the mental property of which the mental event is the exemplification will have to be identifiable with the physical property of which the physical event is the exemplification—presumably a physical property. But this is the position of the type identity theory. There does not seem to be any logical space, on Kim's view of events, for the token identity theory. There is no space for a view that combines property dualism with event monism.<sup>83</sup>

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<sup>81</sup> Davidson 1980, Essay 11, Horgan 1989

<sup>82</sup> Feldman 1980, Steward 1997, chapter 1. Kim himself agrees with Steward's and Feldman's conclusions in Kim 1966: "the problem of the identity of Socrates' being in pain and Socrates' being in brain state B reduces to the problem whether or not the property of being in pain and the property of being in brain state B are the same property."

<sup>83</sup> Steward 1997, pgs. 28–29.

Steward goes on to suggest that the problem with Kimian events is that they are too “thin”; they are not the sort of entity that could turn out to be physical in nature, for they lack a “secret life”:

One can make no sense of the idea that an exemplification of a property might have a secret life... Whatever diversity of perspective is possible on such an entity is entirely derivative from different ways of characterizing its constitutive substance, property, and time. It cannot be guardian of any mysteries which are genuinely its own.

On Steward’s view, only a coarser conception of events can support token physicalism.

Although Steward does not provide a criterion of identity herself, she says that any events that can support token physicalism must be the sort of entities that can have a secret life.

Steward cashes out this notion of “having a secret life” in epistemic terms. She gives a definition of the “secret life requirement” for being the sort of entity that can support token physicalism:

An entity satisfies the “secret life requirement” if and only if it is intelligible to suppose that: (1) the entity might be uniquely identified by means of some referring expression which is not known to apply to it by someone who is, nevertheless, in a position to single that entity out in some other way; (2) for some such referring expressions, the subject’s not knowing that they provide an alternative means of uniquely identifying the entity in question is not simply a matter of her being ignorant of an alternative means of uniquely identifying some other entity; (3) for some such referring expressions, the subject’s not knowing that they provide an alternative means of uniquely identifying the entity in question is not simply a matter of her not knowing about one of the entity’s relational properties (where spatial and temporal properties

are not accounted relational).

According to Steward, only mental events that satisfy this requirement can be the entities that token physicalism identifies with physical events.

I am basically in agreement with Steward: events with a secret life are needed to support token physicalism, and Kimian events lack secret lives. But I think that there is a more straightforward, non-epistemic way of understanding the secret life requirement. The problem with mental Kimian events like  $\langle \text{me, thinking, noon} \rangle$  is not that we could only *learn* that they are physical by first determining whether repeatables like thinking are physical. The problem is simply that they cannot *be* physical unless mental repeatables are physical. So a simpler objection to Kim is that Kim's events cannot be associated with multiple triples, and specifically cannot be associated with one triple that has a mental second entry and with another triple that has a distinct physical second entry. To have secret lives, events must be associable with multiple triples.

So long as association with multiple triples is possible, we can formulate a version of token physicalism that does not collapse into type physicalism. Token physicalism can be treated as yet another principle governing the structure of total sets. Specifically, it is an existential inclusive principle:

Token Physicalism: If  $\langle \text{the AA, } \alpha, t \rangle$  belongs to a total set, and  $\alpha$  is a mental act type, then some triple  $\langle \text{the BB, } \beta, t \rangle$  also belongs to the total set, such that the BB are physical things and  $\beta$  is a physical act type.

In contrast with the principles I endorsed in §3.4, Token Physicalism is not a principle that belongs to the general *a priori* theory of the structure of total sets. Whether Token Physicalism is true is a more substantive, partly empirical question in the philosophy of mind. So it is important that the general theory of total sets be flexible enough to leave open the truth-value of Token Physicalism.

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I posed several problems for a theory of events in Chapter 1. I have offered solutions to some of them. With the theory of events developed in this chapter, we can explain why concerts are always accompanied by publicly performing musicians, and vice-versa, and more generally we can explain why things and events always accompany each other. The theory of events as doings takes events to be moderately coarse-grained, and it explains how and why perfect nominals refer to events. Most importantly, the theory provides a place for familiar events: familiar events are found among the doings of things. Along the way, some other pleasantly surprising applications have emerged: the individuation of events helps shed light on the determinate–determinable relation and on the independence of token physicalism from type physicalism.

One problem, however, remains unsolved: the problem of fine-grained causation. If events are moderately coarse-grained doings, and the relata of causation are events, then the fine-grained causal distinctions that we natural language speakers so often draw are ruled out as impossible. The problem is tough enough that my dissertation needs a second half. A serious

look at events reveals them to be the wrong sorts of entities to be the relata of fine-grained causation. Accommodating fine-grained causation requires abandoning the view that causation is simply a relation between events. Instead, I will argue, most primitively it is *things* that cause.



## **Part II: Thing Causation**

Two objects may be consider'd as plac'd in this relation [of causation], as well when one is the cause of any of the actions or motions of the other, as when the former is the cause of the existence of the latter. For...that action or motion is nothing but the object itself, consider'd in a certain light.

- David Hume, *A Treatise of Human Nature* (1.1.5.4)

We have the icy road, the bald tire, the drunk driver, the blind corner, the approaching car, and more. Together, these cause the crash.

- David Lewis, "Causal Explanation" (pg. 214)

## Chapter 4: Event Causation and Thing Causation

### 4.1 What in the World is a Cause?

Suppose a bomb explodes, collapsing a building. We can say that the explosion (an event) caused the building's collapse, or that the bomb (a thing) caused it. The collapse is, in a sense, doubly caused. This double causation is systematic: effects always or almost always have both things and events as causes. Rarely do bombs outstrip bomb-explosions in their most notable effects, and no bomb-explosion causes what no bomb does. Of course, no one would think that this is an extraordinary coincidence, or that it is evidence of a global conspiracy to place bombs at the sites of bomb-explosions. For there is surely some general explanation of the systematic double causation by events and things. But what exactly is the explanation?

The best way to provide an explanation is to start with either event causation or thing causation and define the other from it. If one can be defined from the other, or if they are interdefinable, then it will be no coincidence that event causation and thing causation always accompany each other, for it will be guaranteed by definition.<sup>84</sup> The dominant view in analytic philosophy has been that thing causation is definable from event causation, and that event causation is the most primitive, irreducible kind of causation: it is not definable from thing causation, nor from any other kind of causation. To indicate the most primitive kind of

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<sup>84</sup> Lowe 2008, chapter 6 argues that event causation and thing causation are interdefinable. If Lowe were right, then this would explain why event causation and thing causation always accompany each other. As I argue later, they are not interdefinable. Steward 1997, 2012 defends the view that neither event causation nor thing causation is definable from the other.

causation, I will underline “causation” (and “cause” and “effect”). On the dominant view, causes are events, and things cause only in a derivative sense: for a thing to cause some effect just is for the thing to figure, in the right way, in an event that causes the effect. The bomb counts as a cause of the collapse only because it figured in an event—the explosion—that was the collapse’s cause.

I reverse this: I claim that causes are things. I take causation to involve a thing causing a thing to do something, by doing something itself.<sup>85</sup> The bomb, for instance, causes the building to collapse, by exploding. Event causation reduces to thing causation. In this chapter, I make use of the theory of events developed in Part I to provide a definition of event causation from thing causation. I then give my core argument that thing causation is not definable from event causation. I develop the problem about “fine-grained” cases of causation—cases that cannot be accommodated if we take causation to relate events (unless events are implausibly fine-grained). I show how we can solve the problem by taking causation to be thing causation.

Before all this, let me make three clarificatory remarks. First, most of what philosophers have said about the possibility of causation by things has been said in the service of developing theories of free agency. Agent-causal theorists claim that agents act freely only in virtue of causing certain outcomes themselves, such as events in their own minds and movements of their bodies. Agent-causal theorists then seek to defend the possibility of causation by agents.

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<sup>85</sup> This is based on an idea floated by Lowe 2008, chapters 6–8 and Skow 2018, chapter 5. Other defences of causation by things include Swinburne 1997, Alvarez and Hyman 1998, section 7, Mayr 2011, Jacobs and O’Connor 2013, Vihvelin 2013, Hyman 2015, chapter 2, Whittle 2016, and Paolini Paoletti 2018.

While I also seek to defend causation by agents and other things, I do not aim to defend any view of free agency. The possibility of causation by things may help to make room for the possibility of an agent-causal theory of free agency, but I do not endorse an agent-causal theory.

Second, I do not presuppose any view of what causation is. When I claim that thing causation is “more primitive” or “not reducible”, I mean only that thing causation does not reduce to event causation. I do not deny that thing causation might reduce to something noncausal. Everything I say is compatible with each of the various standard views of what causation reduces to: it is compatible with reductions of causation to counterfactuals and to lawlike regularities, for instance, and with both Humean and non-Humean views of fundamental reality. This is worth mentioning because primitive thing causation is very often associated with a fundamental ontology of causal powers.<sup>86</sup> Some philosophers regard fundamental causal powers with suspicion, and that same suspicion is often directed at primitive thing causation, because of its association with fundamental causal powers. Since my version of primitive thing causation need not be coupled with a fundamental ontology of causal powers, it does not deserve that suspicion.

Third, in this chapter I focus on the relationship between event causation and thing causation. There may appear to be causation between other entities: between absences,

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<sup>86</sup> This is in part because both are associated with Aristotle. Swinburne 1997 and Lowe 2008, chapter 8 argue persuasively that causal powers ontologists should take causes to be things. But they do not argue for the converse view that causation by things requires a causal powers ontology.

omissions, states, disjunctive and existential facts, and so forth, but I will put off these kinds of causation until Chapter 6. A common view is that all causation reduces to event causation. Philosophers who endorse this view have the task of explaining how apparent causation between absences, etc. fits into their picture.<sup>87</sup> If I claimed that all causation reduces to thing causation, I would face a similar task. (The task for me would be *at most* as difficult as the task of reducing causation by omission, etc. to event causation. Since I define event causation from thing causation in §4.3, whatever is definable from event causation is thereby definable from thing causation.) Although I am inclined toward the view that all causation reduces to thing causation, I will not try to defend that view in this chapter. I argue only that event causation reduces to thing causation.

## **4.2 What Things Cause**

I claim that the most primitive kind of causation is thing causation. But what exactly is thing causation? Thing causation involves things causing things to do something—to act. We can capture this with sentences of the form “A causes B to do  $\beta$ ”. The bomb, for instance, causes the building to collapse. One domino causes another to fall over. In most if not all cases of thing causation, there will be some means by which A causes B to do  $\beta$ .<sup>88</sup> In that case, we say that A causes B to do  $\beta$  by doing  $\alpha$ . The bomb, for instance, causes the building to collapse by

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<sup>87</sup> Thomson 2003 argues that causation between states and between omissions is definable from event causation.

<sup>88</sup> Here I follow Lowe 2008, chapter 6 and Skow 2018, chapter 5.

exploding. The one domino causes the other to fall over by falling on it. “A causes B to do  $\beta$  by doing  $\alpha$ ” is the most straightforward form that thing causation can take. An important question is whether there are cases where we cannot complete our statements with “by doing  $\alpha$ ”. I take up this question in §5.2.

Philosophers usually assume that causation must be a relation. If they are right, then we should treat causation as a four-place relation between two things and two act types. This works for the cases I have considered so far. In the bomb case, the relata are the bomb, exploding, the building, and collapsing. In general, if A causes B to do  $\beta$  by doing  $\alpha$ , then causation relates A,  $\alpha$ , B, and  $\beta$ .

This runs contrary to the standard approach among those philosophers who think that things can cause. It is usually thought that if things cause, then their effects are events. In particular, agent-causal theorists of free will have typically taken agents to cause certain mental events in their own minds, such as decisions. As agent-causal theorists nearly all agree, causation surely does not exclusively relate things to events. For causation is “chainable”: either it is a transitive relation, or at least there are many transitive chains of causation. But no relation that exclusively relates things to events is chainable. (Consider the relation that holds between people and their births: this relation is not chainable.) So causation cannot exclusively relate things to events.

Agent-causal theorists usually say that causation sometimes relates things (specifically, agents) to events, but causation also relates events to events. On this view, the non-agential

world is full of causation between events, but free agency involves causation by things.

Opponents of this view often challenge agent-causal theorists to explain how it could be that the very same causal relation that normally relates events to events also sometimes relates things to events. Here is Hilary Bok:

We understand what it means to be someone's sister. But it does not follow that we understand what it means to be the sister of an event. It would not help to be told that our relation to such an event would be the exact same relation we now stand in to our siblings...Likewise, we cannot assume that it makes sense to say that agents can stand in the same causal relation to events that other events do, absent some explanation of how an agent can produce an event in a way that is not reducible to event causation.<sup>89</sup>

Agent-causal theorists may have good responses to Bok's worry. But it is an advantage of my view that it faces no such worry in the first place. If causation is a four-place relation that always relates two things and two act types, then its relata do not vary, and it is chainable. Imagine that the building, by collapsing, causes some birds to scatter: then (presumably) the bomb, by exploding, causes the birds to scatter. We have a transitive chain: the bomb, exploding → the building, collapsing → the birds, scattering.

I have reservations about taking causation to be a relation.<sup>90</sup> If causation is a four-place relation between two things and two act types, then act types are genuine entities. I have been treating them as entities; I have been quantifying over them, and treating them as if they are related to things by the "doing" relation: A does  $\alpha$ . Although I talk this way, I do not actually

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<sup>89</sup> Bok 1998, pgs. 44–45

<sup>90</sup> Additionally, prevention poses a problem for the idea that causation is a relation. See §6.2.

intend to commit myself to an ontology of act types. An alternative view is that when rocks slide, there is no entity that they do; they simply slide. The way the phrase “do something” works in English actually suggests this. An instance of “the rocks did something” is not “the rocks did sliding” but rather “the rocks slid”. In order to reflect this, I could quantify directly into predicate position: I could say that for some  $\Phi$ ,  $A \Phi$ s, or that  $A$  causes  $B$  to  $\Psi$ , for some  $\Psi$ . Although this might reflect the metaphysics more perspicuously, it would greatly complicate the rest of this chapter. In particular, it would be difficult to avoid using quantifiers that each bind variables in multiple grammatical positions. So I will continue to speak of a thing doing an act type  $\alpha$ .<sup>21</sup>

### **4.3 Event Causation Defined**

Turn to the relationship between thing causation and event causation. E.J. Lowe and Bradford Skow have suggested that they are interdefinable: here are roughly the definitions they provide (though written in my terminology).<sup>22</sup> Let “A” and “B” be variables for things, “C” and “E” be event variables, and “ $\alpha$ ” and “ $\beta$ ” be act type variables.

Event from Thing: C causes E if and only if there are some A, B,  $\alpha$ , and  $\beta$ , such that C is a doing of  $\alpha$  by A, E is a doing of  $\beta$  by B, and A causes B to do  $\beta$  by doing  $\alpha$ .

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<sup>21</sup> Note that thing causation is chainable regardless of whether there really are such entities as act types that can be related by a causal relation. The bomb, by exploding, causes the building to collapse; the building, by collapsing, causes the birds to scatter; chaining these: the bomb, by exploding, causes the birds to scatter.

<sup>22</sup> Lowe 2008, chapter 6, Skow 2018, chapter 5. Lowe is somewhat tentative about Thing from Event, and Skow suggests that it is not a good definition, because of cases of causation by omission.

Thing from Event: A causes B to do  $\beta$  by doing  $\alpha$  if and only if there are two events C and E such that C is a doing of  $\alpha$  by A, E is a doing of  $\beta$  by B, and C causes E.

If my view that events are doings is correct, as outlined in Chapter 3, then these look very promising.

In fact, both definitions are false. Event from Thing can be fixed; I am about to try to fix it. Then I will turn to Thing from Event, which is not fixable; thing causation is not definable from event causation.

The backward direction of Event from Thing is false. Suppose that I wave at my neighbor Abby, and she waves back. Then we have event causation—my wave causes Abby’s return wave—and thing causation: by waving at Abby, I cause her to wave back. So far so good: the thing-causal and event-causal statements agree in truth-value. But I have not finished telling the story. Abby is behind a fence that partly occludes her vision. To make sure that she sees me wave, I wave with both my hands, at the same time. So (at least) two events feature me as their agent: a left-handed wave and a right-handed wave. As it happens, only the right-handed wave causes her to wave back. Now we have a counterexample. I cause Abby to wave back by waving at her. My left-handed wave is also a wave, so the backward direction of Event from Thing has the false consequence that my left-handed wave at her causes the wave back. In general, there will be counterexamples to Event from Thing whenever some thing does  $\alpha$  twice at the same time, and, by doing it, causes some effect, but only one of the doings of  $\alpha$  is a cause. There are also analogous counterexamples to Event from Thing on the side of

the effect, whenever A does  $\alpha$ , thereby causing some B to do  $\beta$ , and B does  $\beta$  twice, but only one of the doings of  $\beta$  by B is caused by the doing of  $\alpha$  by A.

Here is the fix:

Event from Thing 2: C causes E if and only if there are some A, B,  $\alpha$ , and  $\beta$ , such that C is the unique doing of  $\alpha$  by A, E is the unique doing of  $\beta$  by B, and A causes B to do  $\beta$  by doing  $\alpha$ .

$\alpha$  and  $\beta$  will have to be determinate enough to pick out C and E uniquely. In cases where C and E occur alongside events very similar to them,  $\alpha$  and  $\beta$  will be very determinate. In the waving case,  $\alpha$  will have to be something like waving right-handedly or waving with my unoccluded hand, so that we can pick out C as the unique doing of  $\alpha$  by A (my right-handed wave). So I cause Abby to wave back by waving at her with my unoccluded hand. In general, we will endorse thing-causal reports with highly determinate  $\alpha$  and  $\beta$ . I think that this is good: it is true that I cause Abby to wave back by waving with my unoccluded hand. (Thing-causal reports that lack such specificity can also be correct: it is also true that I cause Abby to wave back by waving at her.)

Some philosophers have thought that causes should be proportionate to their effects: they should not be overly specific, at least not in irrelevant ways. Consider Socrates, who guzzles down some hemlock and dies shortly thereafter. The poison is potent enough that sipping it slowly would still have been lethal, so it is irrelevant to Socrates's death that he *guzzled* it. Arguably, it was Socrates's drinking the poison, and not his guzzling it, that caused

him to die.<sup>93</sup> Now, one might worry that in choosing an  $\alpha$  determinate enough that it uniquely picks out the efficacious event, we may end up with something overly specific, in ways irrelevant to the effect. It is important that this is always avoidable: there is always some  $\alpha$  that is both relevant to the effect and strong enough to pick out only the cause. We can find such an  $\alpha$  in the waving example: in mentioning that I wave *with my unoccluded hand*, I am not being overly specific; the specificity is needed. By waving my other hand, I would not—and in fact, do not—cause her to wave back. Here is a sketch of a general argument that there is always some act type that is strong enough to pick out the cause without being irrelevant. Suppose that A does  $\alpha$  twice at once, but only one of A's doings of  $\alpha$  has a certain effect. Then there must be some difference-maker—some reason why only the efficacious doing of  $\alpha$  had the effect. Whatever makes the difference can be “added” to  $\alpha$  to get a more determinate act type,  $\alpha+$ , so that only the efficacious doing of  $\alpha$  is a doing of  $\alpha+$ . In the waving case,  $\alpha+$  is waving with my unoccluded hand.

#### **4.4 Can Thing Causation Be Defined?**

If Event from Thing 2 is a good definition, then event causation is definable from thing causation. The next question is whether thing causation is definable from event causation. I will argue that it is not.

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<sup>93</sup> Yablo 1992, pg. 414 suggests this.

Thing from Event: A causes B to do  $\beta$  by doing  $\alpha$  if and only if there are two events C and E such that C is a doing of  $\alpha$  by A, E is a doing of  $\beta$  by B, and C causes E.

This is a good definition of thing causation only if (1) the biconditional is true and (2) “A causes B to do  $\beta$  by doing  $\alpha$ ” covers all cases of thing causation.

Lowe and Skow have suggested that this biconditional is true; the question is whether all cases of thing causation are of the form: A causes B to do  $\beta$  by doing  $\alpha$ . According to Lowe and Skow, the potential exceptions to this are cases in which A causes B to do  $\beta$ , but not by doing anything. In such a case, the connection between thing causation and event causation would break down. It would be a case of irreducible thing causation, since there would be no doing of something by A that causes the doing of  $\beta$  by B.

But are such cases possible? Lowe and Skow float rather different potential counterexamples.<sup>94</sup> I will now address Lowe’s example, and argue that it does not threaten Thing from Event at all. In §4.7, however, I will argue that the biconditional in Thing from Event is false. In §6.1, I discuss Skow’s example.

Lowe’s case involves basic intentional action. Many philosophers of action have thought that a person’s movements of her own body can be basic intentional actions. If I raise my arm, and I do not do so by doing anything else (by lifting it with my other arm, for instance), then this is a basic intentional action. But for me to raise my arm is for me to cause it to rise,<sup>95</sup> so this is a case in which I cause my arm to rise, but not by doing anything further. So

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<sup>94</sup> Skow 2018, chapter 5

<sup>95</sup> Or rather, it is in part to cause it to rise. See §5.2.

if arm raising can be basic, then we have an example of thing causation with no event causation. Or so Lowe argues.<sup>96</sup>

Lowe ultimately denies that our movements of our bodies are ever basic intentional actions. Instead, for independent reasons, he takes basic intentional actions to be “willings” internal to the mind; he thinks that we move our bodies by willing. So he does not actually think that any arm raisings are cases of irreducible thing causation. He merely accepts the conditional that *if* we believe that our movements of our bodies are basic intentional actions, *then* we should also believe that such actions are cases of irreducible thing causation. Some philosophers, including Maria Alvarez and John Hyman, accept both this conditional and its antecedent, and thus its consequent: Alvarez and Hyman have argued that basic arm raisings show that some causation is not reducible to event causation.<sup>97</sup>

But Alvarez, Hyman, and Lowe are wrong to accept the conditional. When I raise my arm, I always do so by doing something further: contracting my muscles. If arm raising can be basic in any sense, it can be basic only in the sense that I do not do it by doing anything that I do *intentionally*.

Lowe, anticipating this point, explicitly denies what I have just claimed. He says that we do not raise our arms by contracting our muscles. Lowe says that if anything, we do just the reverse: we contract our muscles by raising our arms. (To make this seem more plausible,

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<sup>96</sup> Lowe 2008, pg. 125

<sup>97</sup> Alvarez and Hyman 1998. Vendler 1984 gives a very similar argument.

imagine that a doctor has told you to contract certain muscles, and the only way you know how to do so is to raise your arm.)

There may be some sense of “by” on which Lowe is right to say that we do not raise our arms by contracting our muscles. Some philosophers have thought that there is an intention-implying sense of “by” on which it is impossible to do  $\beta$  by doing  $\alpha$  without doing  $\alpha$  intentionally. If so, then Lowe’s claim is true, with “by” interpreted in this sense.<sup>98</sup> But there is also a non-intention-implying sense of “by”, on which we can perform basic intentional actions by doing something further. When we raise our arms, we may not do so by doing anything we do intentionally, but we still raise our arms by contracting our muscles. To deny this is to deny a simple fact of physiology.

It is this latter, non-intention-implying sense that is at work in Thing from Event. It had better be, since many things that cause are inanimate objects that do not act intentionally. When the bomb causes the building to collapse by exploding, it does not intentionally explode. So in the relevant sense of “by”: whenever we cause our arms to rise, we do so by doing something further.

It will be helpful to talk of a thing doing something “basically”. Using the non-intention-implying sense of “by”: something does  $\beta$  basically if and only if it does  $\beta$ , but

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<sup>98</sup> Wreen 1987. An alternative view is that there is a sole sense of “by”, that we raise our arms by contracting our muscles, and that when a doctor gets you to contract your muscles, you do not contract them by raising your arm; rather, you contract your muscles by doing what you do in beginning to raise your arm (perhaps by forming the intention to raise your arm).

not by doing anything further.<sup>99</sup> The question, then, is whether there are any examples of a thing causing basically in this sense. I do not think that Lowe's example is an example of a thing causing basically, but there may still be other examples. If there are, then they are examples of irreducible thing causation. Even if things never cause basically, however, there might still be other examples of irreducible thing causation. In the next section, I will give examples of irreducible thing causation that is nonbasic.

#### **4.5 The Problem of Fine-Grained Causation**

It is finally time to return to the problem of fine-grained causation. I will now present the problem in greater detail than I did in Chapter 1, and then I will explain how we can solve the problem by taking causation to be thing causation. After that, I will show that these fine-grained cases are counterexamples to Thing from Event.

Suppose that I am with my friend Quinn in a temple in which roughhousing is forbidden: to break this rule is to act sacrilegiously. Quinn shoves me forcefully, causing me to fall over. The shove is sacrilegious, so in event-causal terms: the forceful, sacrilegious shove caused my fall. But there is a causal difference between the shove's forcefulness and its sacrilegiousness: the latter was irrelevant to my fall, whereas the former played a crucial role. My fall was caused by Quinn's shoving me forcefully, but not by his shoving me sacrilegiously.

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<sup>99</sup> It is arguably a flaw of this definition that it does not allow that a thing simultaneously does  $\alpha$  both basically and nonbasically. This may be possible in cases where A does  $\alpha$  twice at once. I will set aside this complication, for although it is a fairly deep problem for the definition, it is irrelevant to my focus: distinguishing basic action from intentionally basic action.

How do we capture this difference in event-causal terms? There was just one shove that was both forceful and sacrilegious, and it caused my fall. Of course, we can capture the difference in other ways—with counterfactuals, for instance: my fall would not have occurred had the shove not been forceful, but still would have occurred had the shove not been sacrilegious. But we cannot capture the difference by talking about which events cause which.

Analogous problems arise on the side of the effect. Suppose that just as Quinn shoves me, I manage to pull myself together and fall gracefully. Then there is just one fall of mine, and it is graceful. Although Quinn’s shove caused the graceful fall, the fall does not owe its gracefulness to the shove. Its gracefulness is a result of my exercise regimen, or perhaps some gymnastics lessons I once took, not of Quinn’s rough ways. Quinn’s shove does not cause me to fall gracefully; it merely causes me to fall. How do we make sense of this, when there is only one fall of mine, and it is both graceful and an effect of Quinn’s shove?

One response to this is to claim that distinctions that cannot be drawn in a coarse-grained event-causal framework are not genuine causal distinctions, despite our use of the word “cause”. They are merely explanatory distinctions. Quinn’s sacrilegious shove caused my fall, but we would be better off not appealing to the sacrilegiousness in an explanation of why I fell. I will not dwell on this strategy.<sup>100</sup> Instead, let me turn to the most common approach.

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<sup>100</sup> Davidson 1967, pg. 702–703, Strawson 1985. One common objection to this strategy is that it renders causation problematically intransitive (Ehring 1987, 1997, pgs. 73–78, Hausman 1992, and Paul 2000, pgs. 240–242).

Many philosophers embrace a finer-grained conception of events, on which there are multiple materially coincident shoves Quinn gives me, followed by multiple materially coincident falls of mine. The shoves are all sacrilegious, but some of them are only *incidentally* sacrilegious, while others are *constitutively* sacrilegious.<sup>101</sup> Only an incidentally sacrilegious shove is a cause of my fall. The constitutively sacrilegious shoves do not cause me to fall. (We can devise alternative scenarios in which they do: imagine a sturdier and more pious version of me—I am so taken aback at Quinn’s sacrilege that I fail to maintain my balance as he shoves me.) All of the shoves are forceful, only some constitutively so. Some of the constitutively forceful shoves cause my fall. Same for the effect: only incidentally graceful falls of mine are caused by any of Quinn’s shoves.

The fine-grained approach has been developed in various ways. Earlier I discussed Kim’s view, on which we associate each event with a unique ordered triple of a thing, a property the thing instantiates, and a time at which the instantiation obtains, and we individuate events by their association with such triples. One event is associated with <Quinn, shoving me sacrilegiously, time t>, another with <Quinn, shoving me forcefully, t>. The latter causes my fall; the former does not. Stephen Yablo has suggested that we take an event’s constitutive properties to be its essential ones. We distinguish coincident events by their

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<sup>101</sup> Note that my use of “constitutive” here differs from Jaegwon Kim’s: on my usage, constitutive properties are instantiated by events, whereas on Kim’s they are instantiated by things.

essences: Quinn's shoves are all sacrilegious, but only some are essentially sacrilegious, and they do not cause my fall.<sup>102</sup>

The most common complaint about fine-grained views is that they are ontologically extravagant: Yablo and Kim posit vastly many overlapping concrete particulars.<sup>103</sup> But I want to press a different objection—one that targets not the fine-grained views of events themselves, but rather the claim that causation relates fine-grained events. Although we natural language speakers make fine-grained causal distinctions, we do not normally do so by making fine-grained event-causal distinctions. If we wish to provide the cause of my fall, we do not search for an event whose constitution includes the shove's forcefulness, yet leaves out the shove's sacrilegiousness as merely incidental. We are content simply to say that the shove causes my fall.

This problem for the fine-grained event-causal view becomes clear when we consider other effects of the shove. Imagine that a nearby priest, seeing Quinn shove me, gasps in horror at the sacrilege, despite being unbothered by the shove's forcefulness. If we appealed to fine-grained events, we would say that it is a constitutively sacrilegious, incidentally forceful shove that causes the priest's gasp; this shove is numerically distinct from the shove that causes my fall. Yet this does not seem to be true: we are perfectly happy to say that Quinn's shove causes both my fall and the priest's gasp. A single event is the cause of both effects.

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<sup>102</sup> Kim 1976, Yablo 1992

<sup>103</sup> Paul 2000, footnote 8 objects to Yablo's view on this basis.

Notice that all of this is true even if the ontology of fine-grained events is correct.<sup>104</sup>

Even if the world contains both the incidentally sacrilegious, constitutively forceful shove and the constitutively sacrilegious, incidentally forceful shove, ordinary speakers do not take care to refer to the former rather than the latter in picking out the cause of my fall. When we want to draw fine-grained causal distinctions, we do not appeal to event causation at all. Instead, we instead say things like “Quinn caused me to fall over by shoving me forcefully”, while denying that he knocked me over by shoving me sacrilegiously.

There might seem to be a major exception to this—a way that natural language allows us to make fine-grained event-causal distinctions. Kim and Yablo often use phrases like “Quinn’s shoving me forcefully”, or “Quisling’s betraying Norway”, or “his pushing a car”. One might think that such phrases refer to events, and that we can use them to make finer-grained distinctions. Whereas “Quinn’s forceful shove” and “Quinn’s sacrilegious shove” corefer, and are substitutable in causal contexts, “Quinn’s shoving me forcefully” and “Quinn’s shoving me sacrilegiously” do not seem to corefer, and are not substitutable in causal contexts. “Quinn’s shoving me forcefully caused my fall” is true, whereas “Quinn’s shoving me sacrilegiously caused my fall” is false. So it may seem that we can use these phrases to make fine-grained event-causal distinctions.

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<sup>104</sup> Though the motivation for a fine-grained view is greatly undermined, since fine-grained events are often posited because of the hope that they can accommodate fine-grained causation.

But I don't think this is right. As I mentioned in §1.2, linguists and philosophers have argued that these phrases, "imperfect nominals", do not refer to events.<sup>105</sup> Events are countable particulars. Consider concerts and shoves: a certain number of concerts were given in London last night, and a certain number of shoves by Quinn have had me as their victim. But "Quinn's shoving me" is not a countable phrase: it is ungrammatical to say "the two Quinn's shovings me". Of course, we can use the imperfect nominal "Quinn's shoving me twice" or "Quinn's shoving me at least twice": we could, for instance, say that his shoving me at least twice really annoyed me. But "Quinn's shoving me at least twice" clearly doesn't refer to two particular events. (Imagine he has shoved me ten times: then which two would it refer to?) These phrases don't refer to events at all.

What do they refer to? Zeno Vendler and Jonathan Bennett have forcefully argued that these phrases refer to facts or propositions. They contrast two sorts of nominals: *perfect* nominals like "Quinn's sacrilegious shove" and *imperfect* nominals like "Quinn's shoving me sacrilegiously". Perfect nominals refer to events, whereas imperfect nominals refer to propositions. Here is what Bennett says about the nominal "his pushing the car":

It is an imperfect nominal, so-called because it retains at least seven grammatical marks of the verb ["push"] from which it comes. (i) It has a direct object, just as a verb would: it says "pushing a car", which is like "he pushes a car". (ii) It doesn't admit of articles: We cannot say "a pushing a car" or "the pushing a car". (iii) It doesn't admit of plurals: We cannot say "pushings a car". (iv) It takes adverbs before the gerund: "easily pushing

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<sup>105</sup> Vendler 1967, Bennett 1988, Steward 1997, chapter 1

a car”, “elegantly pushing a car”. (v) It can be modified with respect to tense: “having pushed a car”...(vi) It can be transformed modally: “having to push a car”, “being unable to push a car”. (vii) It can be negated: “not pushing a car”. These seven features form a grammatically natural cluster: any gerundial nominal that has one has the lot. Furthermore, all seven are shared by the “that P” expressions which are our paradigm for referring to propositions. Consider “...that he pushes a car”: direct object, no articles before the verb, adverbs and not adjectives, tenses, modals, negation—the whole apparatus. I conclude that imperfect nominals behave so thoroughly like “that P” phrases that they should be understood as names of propositions.<sup>106</sup>

When we make fine-grained distinctions between Quinn’s shoving me sacrilegiously and his shoving me forcefully, and we distinguish the effects of each, we are distinguishing propositions, not events.

At this point, one might object to my arguments on methodological grounds. Why think that these linguistic considerations have any force here? Many philosophical theories posit vastly many entities that we never refer to. For example, some philosophers think that any statue is coincident not just with a lump of matter distinct from it, but with infinitely

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<sup>106</sup> Bennett 1994. The view that imperfect nominals refer to propositions or facts has its origins in Vendler 1967, chapter 5 (also see Bennett 1988, pgs. 4–6). For criticism of the analogy between “that”-clauses and imperfect nominals, see McCann 1979 and Yablo 1992, footnote 28. Yablo argues:

[T]he rabbi’s noisily praying was, like his noisy praying, noisy (or we standing outside the rabbi’s door would not have heard it); but the [proposition] that he prayed noisily was not noisy, and it is not what we heard.

But why does Yablo think we could have heard the rabbi’s noisily praying? “We heard the rabbi’s noisily praying” looks ungrammatical to me. (What is grammatical is the distinct but homophonic sentence “we heard the rabbis noisily praying”.)

many statue-shaped objects that differ only in their modal properties. Outside of philosophy conversations, perhaps only statues and lumps, and not anything else coincident with them, have ever been referred to. One should *not* object to such a plenitudinous view by appealing to the fact that we natural language speakers do not take advantage of the opportunity to refer to most of these coincident entities. This would obviously be a bad objection, since it is no surprise that we do not refer to these statue-like objects: we normally have no interest in such objects. Is it similarly ineffective to object to Kim and Yablo by pointing out that we do not refer to most of the many events that they posit? Or is the fact that we do not bother to refer to Kim's and Yablo's entities more problematic than the fact that we do not refer to the many statue-like objects?

I think it is more problematic: there really is a problem for Kim and Yablo. If Kim and Yablo are right, then we are terribly fortunate to be surrounded by this plenitude of events. We natural language speakers have available exactly the entities we need to draw the fine-grained causal distinctions we often want to draw. Yet, for some reason, we squander this opportunity. Instead of inventing some simple linguistic device for picking out one among several coincident events (as Kim himself does), we use other locutions, saying that Quinn's shoving me caused me to fall, or that Quinn did, by shoving me.

The situation here contrasts sharply with that of other plenitudinous ontologies of entities we never refer to. We rarely have any reason to refer to things with strange essences or scattered spatiotemporal profiles, so it is no mark against theories that posit them that

reference to them is rare. But we do have a need to refer to constitutively or essentially forceful shoves, and it is precisely *because* of this need that Kim and Yablo posit them. It would be bewildering if it turned out that these events exist, yet we systematically fail to make use of them to satisfy this need.

#### **4.6 Propositions, Facts, and Beyond**

Bennett's claim that imperfect nominals refer to propositions naturally leads to a view on which causation relates true propositions. Propositions, not events, are fine-grained enough to be causes and effects. This is Bennett's own view: he thinks that causation relates true propositions.<sup>107</sup> Quinn's shoving me forcefully, but not his shoving me sacrilegiously, causes my falling over.

But there is a well-known objection to this view. Propositions are just not the sorts of things that could be causes and effects. They are abstract, not located in space or time. Bennett himself provides a nice statement of this worry (though he rejects it):

[Propositions] are not the sort of item that can cause anything. [A proposition]... is not something *in* the world but is rather something *about* the world, which makes it categorically wrong for the role of a puller and shover and twister and bender.<sup>108</sup>

If this thought is right, then causation cannot relate propositions. (This is not to deny that there is some sense in which propositions can cause or be caused. Quinn's shoving me

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<sup>107</sup> Also see Mellor 1995. Bennett and Mellor more often speak of "facts" as causes and effects, but they take facts to be true propositions.

<sup>108</sup> Bennett 1988, pg. 22

forcefully *does* cause me to fall over, in a derivative sense. But all it is for Quinn's shoving me forcefully to cause me to fall over is for Quinn to cause me to fall over by shoving me forcefully.)

Despite Bennett's nice statement of this objection to causation by propositions, he immediately dismisses the objection on the next page, for reasons I will explain in the next section. However, it is worth noting that Bennett eventually came to take the worry more seriously, as is clear in correspondence between Bennett and David Lewis. With Bennett's permission, I quote his letter to Lewis:

I now see that I mustn't take a position which entails that a proposition can cause a death—not when I ordinarily think of propositions, Lewis-fashion, as sets of worlds! What caused the death is some part or aspect of the actual world; and what I have to do is work out how to make that clear while also holding to my continuing conviction that the best way to report particular causal connections is in the language of states of affairs, with imperfect nominals and whole sentences. That can be done, I believe, but I'm not ready to claim success in it.<sup>109</sup>

I agree with Bennett here. Bennett is right to take the problem more seriously, and he is right that the problem must be solved by a causal locution that makes use *not* of perfect nominals referring to events, but instead of language that matches the fine-grainedness of imperfect nominals.

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<sup>109</sup> Bennett 1998

Numerous other options remain. One could posit tropes—property-instances like the redness “in” a tomato or the heaviness of a truck—and take causation to relate them. If we took these tropes to be abundant and fine-grained, and we allowed for dynamic tropes corresponding to act types (rather than static qualities), then we would posit two tropes: the “shoving sacrilegiously in Quinn” and the “shoving forcefully in Quinn”. This would be adequate to solve the problem of fine-grained causation. However, I am unsure what to make of these odd entities (and also unsure how to refer to them); concrete, abundant, fine-grained, dynamic tropes look suspiciously like fine-grained events.

Another adequate option would be to take causation to be a four-place relation between two events and two properties of those events. Then we could say that causation relates Quinn’s shove, the property of being forceful, my fall, and the property of being a fall, but not Quinn’s shove, being sacrilegious, my fall, and being a fall. This four-place event-causal approach is sufficiently fine-grained. However, both this four-place option and trope causation have other problems, which I discuss in Chapter 6.

Yet another option is to distinguish abstract true propositions from facts, and to take causation to relate facts rather than propositions. Given a suitable conception of facts as concrete, fine-grained, and abundant, this view could help to escape both of the problems we already encountered: the problem of fine-grained causation and the abstractness problem. Perhaps a suitable conception of facts could be developed, and a view that takes causation to relate these facts could be made to work.

However, there are two new puzzles for such a view. First, Bennett's comparisons with "that"-clauses would seem to suggest that it is propositions (not facts, if facts are something else) that cause, since propositions are the referents of "that"-clauses.<sup>110</sup> Bennett is aware of this: although he uses the word "fact", he is clear that he takes facts to be true propositions. If Bennett is right, then the point that we can make fine-grained causal distinctions using imperfect nominals does not support the view that causation relates concrete facts.

Second, the view would need to be constrained somehow. Some facts cannot cause. Conditional facts, like the fact that if I went to the store yesterday, then I bought milk, do not cause anything. How do we explain which facts can cause and which cannot? Notice that those who take causation to relate events face no such challenge, since there is no such thing as a "conditional" event.<sup>111</sup>

To sum up the last two sections: we run into trouble if we take causation to relate coarse-grained events, fine-grained events, or propositions. Coarse-grained event causation misses out on some causal distinctions. Fine-grained event causation does not, but fine-grained event causation is somewhat dubious; the causes and effects that we refer to with imperfect nominals are actually propositions, not fine-grained events. And propositions are not the sort

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<sup>110</sup> Or at least, this is Bennett's view. It is not entirely uncontroversial: see Vendler 1972, chapter 5, and see Betti 2015, chapter 4 for a recent reply to Vendler.

<sup>111</sup> This is not entirely uncontroversial: see Milne 1997.

of thing that could cause, as they are not the sort of entity that could pull or shove or twist or bend another entity.<sup>112</sup>

#### **4.7 A Solution: Thing Causation**

Return to the argument against propositional causation that I quoted from Bennett: propositions, being abstract, cannot melt or pull anything, and so cannot cause anything. In *Events and Their Names*, Bennett rejects this argument, pointing out that neither propositions *nor events* can pull, shove, twist, or bend. He writes:

Consider these:

‘The vase broke because a heavy stone was dropped by it.’

‘The vase’s destruction was caused by the fall of a heavy stone.’

‘The vase broke when a heavy stone sent shock waves through it.’

The first two of these report causes, a [proposition] in one case, an event in the other.

The third reports a pusher, an exacter of force, and this is neither a [proposition] nor an event, but a stone.

Bennett denies that events could exert forces or push things around.<sup>113</sup> Since Bennett takes his opponent to hold that causation relates events, he thinks that he is in no more trouble than his opponent.

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<sup>112</sup> Ehring 1987 defends trope causation. Other candidates for the relata of causation include the instantiations of properties by events (Dretske 1977), by things (Honderich 1988), or by both events and things (Paul 2000).

<sup>113</sup> I am not convinced that Bennett is right about this. He claims that explosions, for instance, do not push objects around—that only the molecules involved in the explosions do. It is odd to deny that the explosion also pushes them around. But if he is right, then so much the better for thing causation.

But Bennett still faces the same problem, even if it is a problem that event-causal theorists face as well.<sup>114</sup> Thing causation, by contrast, clearly avoids the problem. The stone causes the vase to break, by sending shockwaves through it. According to Bennett, causes are entities that can pull and shove; and these are things. Thing causation also avoids the problems that afflict coarse-grained event causation. In thing-causal language, we can draw the fine-grained distinctions that resist an event-causal treatment. Quinn causes me to fall by shoving me forcefully, but he does not cause me to fall by shoving me sacrilegiously. And he causes me to fall, but he does not cause me to fall gracefully.

Thing causation allows for the fine distinctions not permitted by event causation. Yet things, unlike propositions, are just the right sorts of entities to cause.

Return to the definition:

Thing from Event: A causes B to do  $\beta$  by doing  $\alpha$  if and only if there are two events C and E such that C is a doing of  $\alpha$  by A, E is a doing of  $\beta$  by B, and C causes E.

We can now see that Thing from Event is false; specifically, its backward direction is false.

Quinn's sacrilegious shove (C) causes my fall (E), even though Quinn does not cause me to fall by shoving me sacrilegiously. And Quinn's shove (C) causes my graceful fall (E), even though Quinn does not cause me to fall gracefully. The shoving example is an example of irreducible

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<sup>114</sup> Bennett's response to the problem is simply to deny that causes must be entities that could shove or push: "I grant that [propositions] cannot behave like elbows in the ribs, but we know what items do play that role—namely elbows. In our world the pushing and shoving and forcing are done by things...and not by any relata of the causal relation." Bennett justifies this denial by arguing that event causation is in no less trouble.

thing causation. Since event causation is definable from thing causation, but thing causation is not definable from event causation, thing causation is more primitive than event causation.

## **Chapter 5: Determination, Basicness, and Agency**

I have focused on the relationship between thing causation and event causation. In this chapter, I first defend causation by things from an influential objection from C.D. Broad. Next, I turn to the question of whether causation is a nonbasic act type, and I draw some conclusions for agent-causal theories of free agency. Some versions of the agent-causal theory are ruled out as incompatible with causation by things, and standard parts of an agent-causal theory are less motivated than they initially appear to be, but on the other hand, some of the most common objections to agent-causal theories are unsuccessful.

### **5.1 Timing and Determination: The Error in Broad's Argument**

In this section, I defend the view that causes are things from perhaps the best-known objection to it: that causes must determine or suffice for their effects, but things do not determine their supposed effects, so things cannot be causes. The most famous version of this objection, from C. D. Broad, has often been taken to decisively refute the view that causes are things. Carl Ginet, for instance, thinks that Broad's argument shows that the idea that agents can cause is incoherent, and Ginet takes this as the starting point for his research program developing a noncausal account of free agency.<sup>115</sup>

Broad's argument focuses on the timing of the effect:

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<sup>115</sup> Ginet 1990, pg. 14; see also Fales 1990, pgs. 53–55, Clarke 2003, pgs. 197–199. It is especially common to use such arguments to object to agent-causal theories.

[Insofar] as an event is determined, an essential factor in its total cause must be other events. How could an event possibly be determined to happen at a certain date if its total cause contained no factor to which the notion of date has any application? And how can the notion of date have any application to anything that is not an event?<sup>116</sup>

Broad's idea is that an effect's total cause must determine when it occurs. Things cannot determine when an effect happens. Consider my fall in the temple. List all the things you like—Quinn, his arms, the temple—these things do not determine when my fall occurs. Quinn could have waited a few seconds longer to push me, or he could have just sat there doing nothing, never pushing me; either way my fall would not have occurred when it did. Because things can simply sit around, inactive, they cannot determine whether or when an effect occurs.

The conclusion of this argument must be qualified in two ways. First, Broad's argument at most rules out deterministic causation by things; it does not threaten the possibility that things could be indeterministic causes. Second, Broad does not claim that things cannot (deterministically) cause at all; rather, he says that any total cause must contain events. For all Broad has said, things and events might somehow work together to cause an effect.<sup>117</sup> Broad's argument shows at most that deterministic causes cannot consist only of things.

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<sup>116</sup> Broad 1934, pg. 215

<sup>117</sup> Vihvelin 2013, pgs. 80-81 argues that this is metaphysically possible.

Here is an argument for this conclusion that captures some of what Broad has in mind. (Broad's point that only events are datable does not appear in this argument, but that point might be taken to explain why the second premise is true.)

(1) X is a total deterministic cause of Y only if X determines whether and when Y occurs.

(2) Things do not determine whether and when their supposed effects occur.

(C) Things are not total deterministic causes of their supposed effects.

Although (C) does not unqualifiedly rule out causation by things, it comes close. It is a very strong conclusion, and certainly not one that I want to accept.

The argument for (C) is valid. But its first premise, though it may look trivial, is actually highly dubious, because it is inconsistent with standard views about event causation. Consider Davidson's view. Davidson takes causation to relate coarse-grained events, and he holds that underlying any causation is a law of nature that quantifies over events. According to Davidson, if C causes E, then there are some predicates "F" and "G" such that C is describable as "the unique F event" and E is describable as "the unique G event", and there is a law that logically entails that if an F event occurs at time  $t$ , then a unique G event will occur at time  $t+c$  (where "c" is a constant). (The law must entail more than this on Davidson's view, but this is the relevant part.) For Davidson, this is what a cause's sufficiency consists in: it and its effect can be described as "the F event" and "the G event", such that "the F event occurred at  $t$ ", together with a law, entails "the G event occurred at  $t+c$ ". Notice that C need not determine anything itself; it is the truth "The F event, which is C, occurs at  $t$ " that determines that the G

event occurs at  $t+c$ . Causes, on Davidson's view, do not suffice for or determine their effects; it is truths about them that suffice.<sup>118</sup>

If a deterministic cause itself must determine whether and when its effect occurs, then Davidson's view is false. While many people do not accept Davidson's view of causation, I have never heard anyone suggest that it was refuted by Broad's argument (more than thirty years before Davidson's paper). Broad assumes that deterministic causes must determine whether and when their effects occur, but this rules out views it should not.

Serious doubt is cast on the first premise by the mere fact that Davidson denies it. But it is not only Davidson who denies it; I have focused on Davidson only because Davidson's view is especially straightforward. My point applies to most views of events—even to a fine-grained view like Kim's. On most views, events do not nomically determine their effects; only if events have implausibly strong “factlike” essences do they determine their effects.

Now, we could weaken the first premise to accommodate Davidson's view: perhaps causes themselves need not suffice for their effects; it could instead be appropriate truths about causes that must suffice. But this lets in things as causes. Quinn does not suffice for my falling when I do; his mere existence does not determine whether or when I fall. But a truth about him—“Quinn shoves me forcefully me at  $t$ ”—does suffice for “I fall just after  $t$ ” (together with some other background truths: that no one pushes from the opposite direction, etc.). To generalize this, suppose that  $A$  causes  $B$  to do  $\beta$  at  $t+c$ . Then  $A$ 's mere existence at  $t$  will

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<sup>118</sup> Davidson 1980, essay 7, section III

normally not suffice for B's doing  $\beta$  at  $t+c$ . But there will be some  $\alpha$  such that A's doing  $\alpha$  at  $t$  suffices for B's doing  $\beta$  at  $t+c$ , and A causes B to do  $\beta$  at  $t+c$  by doing  $\alpha$  at  $t$ .

Broad demands something to which the "notion of date" applies. We have something: it is at time  $t$  that A does  $\alpha$ . But it is A that causes, whereas it is the truth that A does  $\alpha$  at  $t$  that determines whether and when A's effect occurs. Just as Davidson takes truths about causes, not causes themselves, to be sufficient, I take the truth that A does  $\alpha$  at  $t$ , not A itself, to suffice for B's doing  $\beta$  at  $t+c$ .

Notice that what I just suggested entails that causation is nonbasic: if A causes, then it does so by doing something further. If causation is nonbasic, then we have available a particularly nice and simple response to Broad's worry. If things sometimes cause basically, then there are presumably still other truths about A that determine that B does  $\beta$  at  $t+c$ : truths about A's dispositions, surroundings, and intrinsic nature. We could respond to Broad's argument by appealing to these truths. But I doubt the response would be as neat and straightforward as the response that nonbasic causation offers. This is a modest point in favor of taking thing causation to be nonbasic.

## **5.2 Basic Causation**

In this section, I take up the question of whether thing causation is nonbasic. I defend the view that it is nonbasic from looming threats of regress, but I neither endorse the view nor give a positive argument for it.

Earlier I criticized E.J. Lowe's example of basic causation. Lowe suggests that sometimes we cause our arms to rise, but not by doing anything. Skipping over some subtleties, I disagree: we always cause our arms to rise by contracting our muscles. But notice that to contract your muscles is (in part) to cause your muscles to contract. So we just have more causation. You might worry that if this "by" chain does not end with causation, then it will not end at all. In other words, unless causing can be basic, regress ensues. Consider the following more general reasoning:

Assume that thing causation is nonbasic. Then if A causes B to do  $\beta$ , A does so by doing  $\alpha_1$ , for some  $\alpha_1$ . So A does  $\alpha_1$ . To do  $\alpha_1$  is to cause some effect, so A must do  $\alpha_1$  by doing some  $\alpha_2$ , for some  $\alpha_2$ . To do  $\alpha_2$  is to cause some effect, so A must do  $\alpha_2$  by doing some  $\alpha_3$ , for some  $\alpha_3$ ... So we have a regress.<sup>119</sup>

This reasoning contains a mistake. It is not true of every act type  $\alpha$  that to do  $\alpha$  is to cause an effect. The regress can stop at any  $\alpha_n$ , so long as  $\alpha_n$  is a "noncausal" act type. Let me explain.

Many act types essentially involve causation. To melt something is, at least in part, to cause it to melt. I say "at least in part" because many philosophers and linguists think that melting something requires more: a melter must "nondeviantly" cause the melting. I might convince my friend to take up metalwork as a hobby, resulting in the melting of some metal; this does not entail that I have ever melted any metal. Say that an act type  $\alpha$  is causal if and only

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<sup>119</sup> Such regresses are not obviously impossible. Thompson 2008, pgs. 107–108 and Skow 2018, pgs. 169–170 suggest that a regress ensues whenever we traverse a continuous path: we do so by traversing its first half, which we do by traversing its first quarter...

if for A to do  $\alpha$  is, at least in part, for A to cause some effect. Otherwise,  $\alpha$  is noncausal. If thing causation is nonbasic, then what end regresses are noncausal act types. If A does  $\alpha$  by doing  $\alpha_2$ ... and she does  $\alpha_{n-1}$  by doing  $\alpha_n$ , and she does  $\alpha_n$  basically, then  $\alpha_n$  is a noncausal act type. Basic action is noncausal.

One possible way out of the regress is to deny that melting something (for instance) is really a causal act type in my sense. Although it is uncontroversial that melting something entails causing it to melt, perhaps one could deny that to melt something is in part to cause it to melt. For one might think that there is no way to “complete” this definition by adding more to “cause it to melt” to get a necessary and sufficient condition, and so melting something cannot be identified with anything that has as a part causing that thing to melt. Then there is nothing ruling out the possibility of melting something basically.

Setting this option aside, it is easy to see that melting something is causal. This is because “melt” is an ergative verb, i.e., it can appear both as a transitive verb and as an intransitive verb, such that the transitive “A melted B” entails “A caused B to melt”. If an ergative verb stands for an act type, then the act type is causal. To heal a wound is in part to cause it to heal, and to collapse a building is in part to cause it to collapse. Most causal act types, however, are not denoted by any ergative verb. Consider the act type kicking a particular stop sign over. This is causal: to kick the stop sign over is in part to cause it to fall over by kicking it. Furthermore, kicking the stop sign is itself causal: to kick the stop sign is in part to

cause one's own foot (or ankle or shin) to come into contact with the stop sign. But there is no ergative verb that stands for kicking a stop sign.

There is no simple procedure for telling whether an act type is causal. One might worry that all act types are causal—that this is what we will find if we investigate deeply enough. In fact, philosophers and linguists have made assertions roughly along these lines.<sup>120</sup> And it does seem that many act types turn out to be causal if we squint at them. One more example: for a person to blink is for her to blink her eyes, which arguably is in part for her to cause her eyes to blink.

If all act types were causal, then we would face not only a regress going “backward”, but also one going “forward”. Suppose that A causes B to do  $\beta$ , and that all act types are causal. Then for B to do  $\beta$  is for B to cause some C to do  $\beta_2$  (+ more). (The “+ more” indicates that there may be more to what it is for B to do  $\beta$ ; causing C to do  $\beta_2$  may only be part of what it is to do  $\beta$ .) So for A to cause B to do  $\beta$  is for A to cause B to cause C to do  $\beta_2$  (+ more). Since  $\beta_2$  is causal, for A to cause B to do  $\beta$  is for A to cause B to cause C to cause D to do  $\beta_3$  (+ more). And so forth. We only ever cause things to cause things to cause...<sup>121</sup>

But not all act types are causal. Although the sort of blinking that people do is causal, the blinking that eyes do is not. To kick a sign over is in part to cause it to fall over, but to fall over is not to cause anything. Falling over and blinking are specific types of movement. More

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<sup>120</sup> For example, Dowty 1979, pg. 91 comes somewhat close to this when he suggests that all accomplishment verb phrases are causatives. Kenny 1963, pg. 236 makes roughly the same claim.

<sup>121</sup> Analogous forward and backward regresses arise for event causation if all events are causings: E must be a causing of  $E_2$  by  $E_3$ ; each of  $E_2$  and  $E_3$  must be a causing of another event by yet another...

generally, moving from one position or location to another is noncausal. (I mean simply moving, as opposed to moving oneself.) Of course, if something moves across the sky, it thereby causes some effects (such as tiny changes in the wind), and surely something causes it to move (perhaps it does so itself, by causing its wings to flap). But to move is not in part to cause changes in the wind or in anything else, nor is it to cause one's own movement. Even more generally: to change in some respect, for instance in one's properties or location, is not to cause anything. Changing is noncausal.

Bradford Skow gives a different example: he suggests that exerting a gravitational force on something—pulling on it gravitationally—is noncausal. Pulling something *somewhere* is causal: to pull something somewhere is in part to cause it to move there by pulling it. But just pulling on something is not causal, for it is consistent with pulling on something that you don't succeed in moving or changing it.<sup>122</sup> Other forces could cancel out those you exert. Skow also suggests that things can pull on something basically: “Consider any electron in the universe...that electron is pulling, gravitationally, on the Earth right now...it is not pulling on the Earth by doing anything else.”<sup>123</sup>

In addition to exerting a force basically, things can also change basically. An object could grow taller, and not by doing something else. Since changing is noncausal, we have two examples of noncausal act types that can be done basically: exerting a force and changing.

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<sup>122</sup> Pulling is perhaps constitutively tied to causing: roughly, for x to pull on y is in part for x to be such that, were other forces on y absent, x would cause y to move. But this does not make pulling a causal act type.

<sup>123</sup> Skow 2018, pg. 170

More controversial is the view that some act types we do intentionally are noncausal.

According to volitionalist views of action, willing is a noncausal act type that agents do basically and intentionally. We do not will by doing anything further, and to will that some outcome obtain is not to cause anything. Carl Ginet also gives a more specific example: he claims that “mentally saying” a word to oneself is noncausal, and can be done intentionally.<sup>124</sup>

Since some act types are noncausal and can be done basically, nonbasic causation does not inevitably lead to a regress. This helps to make room for the possibility that causation is nonbasic. But it does not show that causation is nonbasic. There might still be cases of basic causation. Certain examples initially seem to involve basic causation. Consider Medusa’s head, which inevitably turns to stone all those who gaze upon it. Perseus shows the head to Atlas, and sure enough, Medusa’s head causes Atlas to petrify. One might think that the head does not do so by doing anything; it is only Perseus who does something. But this is not right: the head petrifies Atlas by reflecting light into his eyes. Reflecting light is causal too: to reflect the light into Atlas’s eyes is to cause it to change direction and move into Atlas’s eyes. But Medusa’s head does *this* by entering Atlas’s line of sight, and entering someone’s line of sight is noncausal. In most if not all cases like this, a similar story can be told: in principle, we can find some plausible enough way of tracing out a “by” chain until we reach a noncausal act type. If it turns out that causation can be basic, we probably will not learn this from examples like these.

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<sup>124</sup> Ginet 1990, pg. 12

### **5.3 Agent Causation**

But perhaps there are more theoretical reasons to believe in basic causation. Here is one reason. (We will see others in §§6.1, 6.3.) Some agent-causal theorists, such as Roderick Chisholm, hold that agents act freely only when they cause certain effects that are not caused by any events.<sup>125</sup> (These effects of the agent might be her own decisions or volitions; for Chisholm they are neurological events.) This entails that agents cause basically. For if an agent causes an effect by doing  $\alpha$ , then it follows that some doing of  $\alpha$  by her is an event-cause. If Chisholm is right that the absence of event-causes is a necessary condition for free action, and that some action is free, then some causation by agents is basic.

On the other hand, it is not at all clear that an agent-causal theorist *should* insist that the effects involved in the exercise of free agency are not caused by events. There are two main concerns that an agent-causal theorist might have with the idea that agents share their immediate effects with events. One is the threat of determinism. Most (but not all) agent-causal theorists are libertarians: they claim that the facts about the past, together with the laws, must not necessitate all the facts about how agents act. These libertarians think that if a bodily movement is *deterministically* caused by an event, then that movement is not freely chosen. But this worry applies only to deterministic causation by events, not to indeterministic event causation.

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<sup>125</sup> Chisholm 1964, 1976, chapter 2

The second concern is unrelated to determinism. The second concern is that if some effects have both events and agents as causes, then the agent causation will reduce to the event causation. Then the agent will not be a cause; she will count as causing the movements of her body only because some mental events within her cause them. However, this concern is ill-founded. There is no reason why the mere fact that causation by an agent is accompanied by event causation should mean that the agent causation reduces to the event causation. It is possible (and true, as I argued in Chapter 4) that the event causation reduces to the agent causation.

If causation is nonbasic thing causation, then thing causation is *always* accompanied by event causation, without reducing to it. The view that causation is nonbasic thing causation can be seen as a middle ground, lying between the “extreme” views that causation is event causation and that causation is thing causation, which is sometimes basic. If causation is nonbasic thing causation, then whenever A causes B to do  $\beta$ , A does so by doing some  $\alpha$ . So causation is always accompanied by event causation: a doing of  $\alpha$  by A causes a doing of  $\beta$  by B. There is no thing causation without event causation. But thing causation does not reduce to event causation; the reduction goes in the opposite direction.

Let me make one suggestion. Much of the resistance that philosophers have had toward the view that things can cause might be better directed at the more extreme view that things can cause basically. In particular, philosophers who want to argue against agent-causal theories

might be better off criticizing the commitment of these theories to basic causation by agents, instead of objecting to the general claim that things can cause.

Here is one other consequence for agent-causal theories. Most agent-causal theorists think that causation by an agent is one of several necessary conditions for free agency; the absence of deterministic laws is usually also thought to be necessary. However, some agent-causal theorists disagree: Ned Markosian, in particular, argues for a compatibilist agent-causal theory according to which agent causation is both necessary and sufficient for free agency. Markosian argues that “[an action] A is...free iff A is caused by A’s agent”.<sup>126</sup> Markosian’s view is incompatible with my view of thing causation. For I think that agents (and inanimate objects) are causes even when they act unfreely. Thing causation is primitive even in cases of unfree action. Therefore, I suggest that agent-causal theorists should take causation by an agent to be a necessary but *insufficient* condition for free agency. In cases both of freedom and of unfreedom, agents can be causes.

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<sup>126</sup> Markosian 1999 and 2012, pg. 384. Nelkin 2011, chapter 4 develops a similar view.

## **Chapter 6: The Varieties of Cause**

So far, I have focused only on “positive”, “dynamic” causation. In this chapter, I address the various other potential relata of causation, including causes and effects that seem to be negative, stative, or existential in form. In discussing these, I also address a number of other issues: I explore connections between stative causation and determinism, and I argue that causation has a dual, and that prevention is a genuine kind of causation, whereas causation “by omission” is more questionable. Many complications for my view arise, and modifications are necessary, but a constant theme throughout is that it is only ever things that cause.

### **6.1 The Dual of Causation**

There is a well-known problem about how event causation can accommodate apparent causation by negatives, such as omissions and absences. I will call it “the problem of negative causes”. Let me present the problem with a simple case. Suppose that Jones is the sole gardener in charge of watering a plant. He neglects it, and it dies. Many people have a strong intuition that Jones causes the plant’s death. But if so, then it is hard to see how this case of causation could reduce to event causation. What event could be a cause of the plant’s death, such that Jones causes the death in virtue of the event’s causing the death? It looks like the event would have to be a spooky “negative” event, like Jones’s failure to water the plant.<sup>127</sup>

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<sup>127</sup> For a summary of alternative views, see Clarke 2014, chapters 1–2, and Bernstein 2015, sections 2–3.

Bradford Skow has argued that if we think that thing causation can be basic, then we can easily solve the problem posed by Jones. Skow says that Jones causes the plant to die, but he does not do so by doing anything, and there is no event consisting in Jones's doing something that causes its death. The Jones case contains thing causation, but no event causation. Skow then argues:

If event causation is [more primitive] than [thing] causation, then causation of and by omissions requires us to accept the existence of negative events. But if [thing] causation is [more primitive], causation of and by omissions requires no such thing. Since a metaphysics that requires belief in negative events is worse than one that doesn't (other things being equal), we should take agent causation [to be more primitive].<sup>128</sup>

Why exactly should we avoid believing in negative events? The main reason is that some questions about them that should have answers do not.<sup>129</sup> Where did Jones's failure to water the plants occur? How many failures were there? Does the failure have any subevents, as a war has battles or a play has acts? Is it instead an atomic event, like a point-sized blip in spacetime? (Another much less dialectically forceful reason is that my view of events as doings rules out negative events.)

Skow claims that we can avoid having to posit negative events if we say that Jones causes the plant to die, but not by doing anything. On Skow's view, the causation here is basic thing causation, so we have thing causation with no event causation. And Skow's solution

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<sup>128</sup> Skow 2018, pg. 152. Skow calls thing causation "agent causation". Since I don't use that term, I have swapped in "thing" for "agent" in the quote, and also "more primitive" where Skow has "basic".

<sup>129</sup> Hall and Paul 2013, pg. 178 give this argument against negative events; though see Clarke 2014, pg. 48 for some cases where these tough questions do perhaps have answers.

initially appears successful. But what worries me about Skow's approach is that it does not address the *general* problem of negative causes. Skow only attempts to solve the problem in cases where a thing (Jones) fails to do something, resulting in some effect. But as Skow himself notes, there appear to be more "extreme" cases of negative causes, where there is no thing to point to as the cause. The most extreme case is David Lewis's deadly void, which, according to Lewis, causes my death:

[Y]ou are kept alive by forces and flows of energy that come from the objects that surround you. If, instead of objects, you were surrounded by a void, these life-sustaining forces and flows would cease. Without them, you would soon die. That is how the void causes death. It is deadly not because it exerts forces and supplies energy,  
but because it doesn't.<sup>130</sup>

This appears to be a case of a negative cause: the absence of life-sustaining forces causes my death. But whereas Skow could solve the problem of negative causes in some cases by taking a thing to be the cause (with no corresponding event-cause), there is no thing here to point to as the cause.

The view that causation is thing causation seems to have an advantage over event causation in dealing with less "extreme" cases, such as the case of Jones. But extreme cases are problematic for both views. The causing apparently done by the void is neither event causation nor thing causation.

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<sup>130</sup> Lewis 2004

The fact that Skow doesn't solve the general problem doesn't necessarily mean that he is wrong about Jones. Perhaps the Jones case is a case of basic thing causation; perhaps it is just true that Jones causes the plant to die, but not by doing anything. Perhaps. But there is a reason to think otherwise. There must be some solution to the problem that the void poses—some correct account of the causal relationship between the void and my death. And it seems likely that that account should generalize to less extreme cases, like the case of Jones.

Here is a solution to the void case that generalizes: simply deny that the cases in question really involve causation. In the void, nothing causes me to die.<sup>131</sup> There is not even any entity present (besides me and my parts) that could cause me to die. But as Skow points out in a discussion of a different case of extreme negation, nothing *prevents* me from dying either.<sup>132</sup> In normal, non-voidlike conditions, something would prevent me from dying: the “life-sustaining forces and flows” to which we are accustomed. Perhaps in natural language, we tend to treat abnormal or unexpected failures to prevent as if they are cases of causation, even though strictly speaking they are not. This could explain why we think of the void as a cause of my death. And if this is a good view of the deadly void, then perhaps it is also a good view of the negligent Jones. Strictly speaking, Jones does not cause anything; rather, he fails to prevent the plants from dying. But he could reasonably be expected to prevent them from dying, and

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<sup>131</sup> This is compatible with Beebe's (2004, section 4) idea that cases like Jones's involve causal explanation, but not causation. See also Varzi 2007.

<sup>132</sup> Skow 2018, pg. 162, footnote 21.

he deserves the blame for their death, as he would if he had caused their death, so it is natural to speak as if he causes them to die.

On this view, what looks like causation by a negative does not involve causation at all; instead it only involves the *dual* of causation: *not* causing something *not* to happen. This can either take a singular negative form—some thing does not cause a thing not to do something (e.g. Jones does not cause the plants not to die)—or a negative existential form—it is not the case that there is a thing that causes a thing not to do something (nothing in the void case causes me not to die).

The fact that causation has a dual at all has been ignored in the literature on causation. This may partly be due to the fact that we often treat causation's dual as causation, because of their similar normative upshots: both Jones and genuine plant killers bear responsibility for the deaths of plants. But a second reason is that causation is usually taken to be a relation between events, and relations do not have duals, for there is no “place” to put the inner negation. If we represent causation with a transitive verb that takes as a direct object a term for an event, then where does the inner negation go? It is only when we use “cause” with an infinitival complement that the possibility of a dual of causation becomes apparent.

There is an additional advantage of denying that Jones caused the plant's death. Many philosophers have thought that whether causation occurs should not be a normative matter: it should not depend on facts about, say, moral responsibility. There is a famous problem with this, often called the “Queen of England problem”. We are inclined to say that Jones caused

the plants to die, but to deny that the Queen of England caused them to die. What differentiates Jones from the Queen (and from everyone else in the world)? It seems that the only relevant difference between them is that Jones, but not the Queen, is responsible for keeping the plants alive.<sup>133</sup> Yet if facts about responsibility make the difference between causes and non-causes, then causation turns out to be normative. One could take this to show that what causes what really is surprisingly sensitive to normative factors,<sup>134</sup> or one could insist that the Queen really does cause the plant's death, as does every other human,<sup>135</sup> but perhaps the most attractive option is simply to deny that Jones causes them to die. Helen Beebee argues for this conclusion; this paragraph has been a rough summary of her main argument.<sup>136</sup>

If there is causation by omission, then it seems to be basic causation, which poses a threat to Thing from Event. (The truth of Thing from Event is not under threat in this section, only its status as a successful definition of thing causation.) However, I have suggested that there are good reasons to deny that Jones causes the plant's death, and more generally to think that causation by a negative may be impossible.

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<sup>133</sup> Though Bernstein 2014, pgs. 12–13 argues that modal (rather than normative) considerations make the difference.

<sup>134</sup> McGrath 2003 argues for this conclusion.

<sup>135</sup> Lewis 2004, pg. 277

<sup>136</sup> Beebee 2004, section 2

## **6.2 Why Effects but not Causes Can Be Negative**

I have suggested that what looks to be causation by omission is really failure of prevention. But prevention itself poses the same problem as causation by omission. As Skow notes, prevention is equally threatening to Thing from Event,<sup>137</sup> for cases of prevention are also not of the form A causes B to do  $\beta$  by doing  $\alpha$ . Suppose that Haley catches a falling vase just before it hits the ground. Haley seems to be a cause: she causes the vase not to break. This is a case of thing causation, but it is not of the familiar form A causes B to do  $\beta$  by doing  $\alpha$ . Instead, it is of the form A causes B *not to do*  $\beta$  by doing  $\alpha$ . Haley causes the vase not to break, by catching it. And it is not a case of event causation, for there is no event of the vase's not breaking. This is a further reason why thing causation cannot be defined from event causation.

Most of the philosophers who deny that there is any causation by omission would also deny that Haley causes the vase not to break.<sup>138</sup> Those who reject negative causes similarly reject negative effects. However, there is much less justification for denying that cases like Haley's are genuine cases of causation. For there is nothing analogous to a Queen of England problem for prevention. If we consider some unbroken vase in a distant land, it is not hard to see the difference between it and the vase Haley saves. If Haley had not reached out, the vase before her would have broken. Had she not reached out, the distant vase would *not* have

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<sup>137</sup> Skow 2018, pg. 153

<sup>138</sup> Dowe 2000, chapter 6, 2001

broken. To see why Haley caused the particular vase not to break, there is no need to appeal to considerations of moral responsibility.<sup>139</sup>

I argued that we should not try to solve the problem of causation “by a negative” by taking such cases to involve irreducible thing causation. The negligent Jones and the deadly void do not provide us with cases of irreducible thing causation, and the Queen of England problem casts doubt on their status as causes of death at all. By contrast, there is less reason to deny that prevention really is causation.

Prevention seems to involve thing causation that is not reducible to event causation, since prevention cannot be captured by sentences of the form “A causes B to do  $\beta$  by doing  $\alpha$ ”. To allow for prevention, we should allow for another possible form that causation can take: sometimes A causes B *not* to do  $\beta$ , by doing  $\alpha$ . In this way, causing is structurally analogous to commanding. When you issue someone a command, you can command him to do something, or not to do something; the command’s content can be positive or negative. But you can only issue the command by doing something else—perhaps by speaking or gesturing.<sup>140</sup> (In particular, as Judith Thomson notes, it is impossible to command by *not* doing something. Suppose I tell you “if you want to command me to stand up, don’t nod your head”, and you don’t nod your head. Do you thereby command me to stand up? It seems not. I may now have

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<sup>139</sup> There are problems for prevention that vaguely resemble the Queen of England problem, such as Collins’s 2000 problem about preemptive prevention. But Collins’s problem is narrower in scope, and does not threaten to make causation normative.

<sup>140</sup> Thomson 1977, pgs. 223–224. Thomson similarly argues that it is impossible to answer a question by not doing something (cf. Alvarez 2013, pg. 104).

evidence that you want me to stand up, but you have not issued me a command by not nodding your head. Even if you first tell me that you'll go along with my system for communicating commands, when you do not nod, you do not thereby issue a command. The same goes for causation: we always cause by doing something, but we can cause a thing to do something, or not to do something.)

The fact that thing causation can be extended to accommodate prevention is one further advantage of taking causation to be thing causation, rather than event causation. Whereas we have a natural way of extending thing causation to cover prevention, there is no straightforward way of extending event causation to cover prevention. This point also gives thing causation an advantage over other views of the relation of causation.

Some philosophers believe that causation is a binary relation between tropes—property-instances (and perhaps also act type-instances) like the redness here (in a tomato) or the heaviness over there (in a truck). As I mentioned in §4.6, if tropes are abundant and fine-grained, then taking causation to relate tropes solves the problem of fine-grained causation. But tropes are normally thought of as instances of *positive* properties.<sup>141</sup> In a tomato, there are redness and ripeness tropes, but there are no negative tropes, like a non-blueness trope or a not-a-galaxy trope. In a glass vase, there is a being made of glass trope, but no non-shattering trope. As a result, trope causation struggles to accommodate prevention. When

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<sup>141</sup> Moore 2005, 2009 suggests that negative tropes are as odd as negative events, and Lewis 1986 argues that trope theorists shouldn't believe in negative tropes.

Haley prevents the vase from shattering, what trope is caused? There is no non-shattering trope for her to cause.

Some other views that can accommodate fine-grained causation similarly struggle to accommodate prevention, including the view that causation relates two events and two properties instantiated by those events. On this view, we can say about the earlier example that causation relates Quinn's shove, the property of being forceful, my fall, and the property of being a fall, but it does not relate the shove, the property of being sacrilegious, my fall, and the property of being a fall. Thus this four-place view can accommodate this case of fine-grained causation. But the view cannot accommodate prevention. Consider Haley, who catches the vase, causing it not to break. There is no event to be the third relatum of this four-place relation, since prevention is not causation of any event; only the *cause* in a case of prevention is an event.

### **6.3 Eternity, Determinism, and Stative Causation**

What about causation by states, rather than events? Although many philosophers say that causation relates events, only some of them, such as Thomson and Davidson, really mean events in the ordinary dynamic sense. Kim and Lewis also take the relata of causation to be "events", but they mean to include states. We certainly sometimes talk as if states can cause; for instance, we say that beliefs, desires, and intentions cause some of the movements of our bodies. These causes are states, rather than events. If this is right—if states can cause and be

caused—then we must either show how causation between states is definable from thing causation, or else expand our view of the form that causation can take.

Is it right? Can states be causes and effect? Focus on desires. John Hyman has suggested that desires are not causes, though they play a role in the causation of bodily movements and other events. Hyman emphasizes an analogy with dispositions. Many philosophers have thought that when a thing is disposed to V in condition M, the thing's Ving is caused not by the disposition, but by the occurrence of M. Consider a soporific drug: it is disposed to put me to sleep if I take it. I take it, and fall asleep not long after. What caused me to fall asleep was my taking the drug. The soporificity of the drug did not cause me to fall asleep; dispositions are just not the sort of entity that could cause. Of course, the soporificity played an important role: it was a “causal factor” or a “background condition”; but this is different than being a cause. Hyman suggests that the same is true of desires. Desires either are dispositions or are at least disposition-like. Desiring that p involves being disposed to do what one believes to be necessary to bring it about that p. So just as dispositions are background conditions, rather than causes, so too are desires. And is it natural to think that this extends beyond desires to beliefs, intentions, and other disposition-like states, and perhaps even to all states.

Skow defends the claim that it extends to all states.<sup>142</sup> According to Skow, states are never causes; they can only be background conditions. Skow focuses on the classic example of the striking of a match, which causes the match to light. The striking occurs in the presence of

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<sup>142</sup> Skow 2018, chapter 2

oxygen; if it had occurred in an oxygen-free zone, the lighting would not have occurred. But only the striking, not the presence of oxygen, causes the lighting. The presence of oxygen is a background condition: it is a reason why the striking causes the lighting. (What exactly are background conditions, if not causes? Skow's answer is that background conditions are reasons why one event causes another. Whereas event causation is a binary relation, the background condition relation is ternary: a background condition is always a reason why one event causes another. Applying this to the match case: the presence of oxygen is a reason why the striking causes the lighting.)

Skow says that states do not cause at all. A different view is that states do cause, but that causation between states reduces to causation between events. Thomson (2003) defends this view, indicating how we can define state causation from event causation. If Thomson is right, and if I am right that event causation is definable from thing causation, then state causation is thereby definable from thing causation. Unfortunately, Thomson does not provide a complete definition of state causation from event causation, but she gives hints of what it must be like. She suggests that it is a complicated definition by cases, with each case addressing a different kind of state. The most important case is this:

If the maximal stretch of time throughout which [state] S obtains is continuous, and is preceded by a time during which S does not obtain, then for [event E] to have caused S is for [E] to have caused the [event that is the] onset of S.

In different ways, Thomson and Skow take states to take a causal backseat. Thomson is motivated by a strong intuition that states cannot cause. Thomson sums up the intuition:

A state of affairs lies there, placidly and quietly. If a state of affairs is to cause an outcome O, some...event has to occur, such that it causes O. This is crucial to an understanding of how states of affairs cause things.<sup>143</sup>

I think that there is something quite compelling about this rhetoric, though it is hard to know how to give a more precise argument. One might provide something along the lines of the following “timing” argument. (For simplicity, I will consider an argument for the view that states do not cause at all, rather than for Thomson’s view that states do cause but that state causation reduces to event causation.) Here is the argument:

Suppose that state S obtains, and then at time t, event E occurs. Consider two possibilities. (1) If S obtained over some interval of time prior to t, then S cannot *really* be a cause of E. E did not occur until t, so there must be some temporally more proximate event that is the true cause of E. (2) If S obtained at t or immediately prior to t, then it is not S, but rather the onset of S—an event—that caused E. Either way, E’s cause is an event.

Although this argument is never given by Skow or Thomson, it is an attempt to explain precisely why causation by states is impossible. It is a way of accounting for the intuition that states cannot cause. However, every step in the argument is questionable at best. (For one, why doesn’t the argument, at most, show merely that a state cannot cause *all on its own*? Why is the conclusion not that states must always work together with events to cause?)

There may be ways to improve the argument, but I don’t think that there is any way to avoid the deepest problem with the argument. The deepest problem is that the claims in the

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<sup>143</sup> Thomson 2003, pg. 83

argument about case (1) presuppose a deterministic conception of causation. The argument falls apart in cases of indeterministic causation. Suppose that according to the laws of nature, so long as a state of type S obtains, it is very likely that an event of type E will occur nearby, although there is no deterministic cause that triggers an E-type event. If one S-type state obtains, and after some time, one E-type event occurs in its vicinity, then presumably the state causes the event. There need not be a more temporally proximate event that causes the effect.

I suspect that the feeling that states cannot cause stems from this deterministic conception of causation.<sup>144</sup> The idea that events but not states can cause is intuitively attractive only because we are engaging in reasoning vaguely along the lines of the timing argument, and this reasoning rests on the assumption that causation is deterministic. Once we give up on the idea that causation must be deterministic, we should give up on the idea that states do not cause.

So far I have only tried to undermine the motivation for the claim that states do not cause. I have not directly argued against it. And it is still possible to maintain the claim that it is events rather than states that are causes in indeterministic cases. In particular, when state S obtains for a while, and then appears to probabilistically cause event E, one might insist that it is not S, but rather the onset of S, that causes E.

However, there appear to be cases where even this move is not available—cases where there is causation by a state, even though *no* event causes the effect. Suppose, again, that the

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<sup>144</sup> Note, however, that Skow does not rely on anything like this argument. Instead, he gives an argument that appeals to the ungrammaticality of certain stative causal statements.

laws say that when and where an S-type state obtains, it is very likely that an E-type event will occur. To make this more concrete, suppose that over the course of any given minute that an S-type state obtains, there is a 99% chance that an E-type event occurs. Suppose, furthermore, that there is a particular S-type state that has *always* obtained throughout the past, and that at time  $t$ , an E-type event occurs in the vicinity of the eternal state. Presumably, the event is caused by the state, not by some other event. Certainly it is not an onset of the state that causes the event, for the state has never had an onset.

This argument is not irresistible. One response is to deny that this is a case of causation at all: the event is not caused by the eternal state, though it probabilistically depends on it. But this response invites awkward questions. Imagine the same situation, except that the S-type state has not existed eternally; it began to obtain in the distant past. In this case, is the event caused? If the answer is “no”, then it looks like we will end up with surprisingly little indeterministic causation. If the answer is “yes”, then we need some explanation of why this case differs from the case in which S has always obtained. Why does it make a difference that S always obtained in the distant past?

Now, how does all of this fit together with the idea that causation is thing causation? If thing causation takes the form A, by doing  $\alpha$ , causes B to do  $\beta$  (or not to do  $\beta$ , in cases of prevention), then this allows for causation by events, but not for causation by states. To accommodate causation by states, we should expand the form that thing causation can take to include stative cases: a thing A can also cause *by being F*. We can then define causation by states

from thing causation: for a state S to cause some effect is for S to be the state of some A's being F, such that A causes the effect by being F.

This allows for stative causes. Interestingly, although we need stative causes, there does not seem to be anything forcing us to allow *effects* to be stative. Suppose we have a case where we have some inclination to say that an event E caused state S. Consider two cases. (1) S came to obtain after or during E. Then instead of saying that E caused S, we can say that E caused S's onset. (2) S obtained prior to E. (Perhaps S has always obtained.) In this case, it is natural to appeal to prevention. For some A and F such that S is the state of A's being F, we can say that E caused A to *remain* F—in other words, E prevented A from becoming not-F—in other words, E caused A not to become not-F.<sup>145</sup>

#### **6.4 Existential Causes?**

Thing causation affords finer-grained distinctions than (coarse-grained) event causation does. But causation between propositions (or facts) affords further distinctions still. In particular, propositions can take a quantificational form. If causation relates propositions, this provides considerable flexibility—more than thing causation does, since thing causation takes a more rigid form. A potential worry for thing causation is that there may be causation that only a propositional view can account for. Although I argued that causation does not

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<sup>145</sup> Notice the dissimilarity between this argument and the bad argument that states never cause. The argument here does not rely on any deterministic assumptions.

relate propositions in §4.5, it might turn out that we *need* propositional causation to accommodate some cases of causation (or at least that we need relations that are similarly flexible).

Suppose that Kirsi finds herself surrounded by bees. One stings her, resulting in a painful welt. Call the bee Bertha. It seems that Bertha causes a welt to form, by stinging Kirsi. But consider the following line of reasoning:

It is irrelevant that it was *Bertha* who stung Kirsi; all that matters for whether the welt formed is that some bee or other stung her. So we should treat the cause as having an existential form: we instead say only that *a bee* caused the welt to form by stinging Kirsi. Only propositional causation, not thing causation, allows for causes that have an existential form. This case cannot be treated as a case of thing causation at all.

I reject this line of reasoning. It is doubtful that causes and effects are so flexible in their form. We naturally rule out Quinn's shoving me sacrilegiously as a cause of my fall, on the ground that shoving sacrilegiously is disproportionately strong, since the sacrilege is incidental. But we do not disqualify causes on the ground that the identities of the *things* involved are incidental. If the temple Quinn and I are in contains many other aggressive people equally disposed to knock me over, this does not threaten Quinn's status as my fall's cause. It would be bizarre to insist that it was not Quinn, but a mere "someone", who caused my fall. The same goes for Bertha the bee: Bertha causes Kirsi's welt to form, even though any bee's sting would suffice.

Furthermore, it is unclear how we could even formulate the idea that the cause is existential. In the “line of reasoning” I said that “a bee” caused the welt to form. But it is a mistake to think that this picks out something existential as a cause. To say that a bee caused the welt to form is just to say that there is a bee that caused the welt to form (namely, Bertha). In general, when an indefinite like “a bee” occurs as the subject of “cause”, the indefinite cannot take narrow scope over “cause”. There does not appear to be any way to say that something existential in form was a cause or effect, at least not using imperfect nominals to refer to propositions.<sup>146</sup>

(Note that “because” differs from “cause” in this way. In “Kirsi’s welt formed because a bee stung her”, “a bee” can take both narrow and wide scope. The narrow scope reading can be expressed unambiguously with “Kirsi’s welt formed because there was a bee that stung her”. Causal explanation, expressed with “because” statements, is more flexible than causation: it can relate existential propositions, whereas causation cannot.)

The extra flexibility offered by propositions is unwanted flexibility. When one proposition causes another, the propositions cannot be existential. The view that causation is thing causation rightly rules out existentials as causes. And this is an advantage for thing causation over propositional causation, rather than a disadvantage. For the former, but not the

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<sup>146</sup> We can try using imperfect nominals with indefinites: “a bee’s stinging Kirsi caused her welt to form”, but here too the indefinite cannot have narrow scope. We can try to force something equivalent to a narrow scope reading by saying “the proposition (or fact) that there was a bee that stung Kirsi caused her welt to form”. I think this is just false.

latter, explains why causes and effects never take an existential form. It is only *particular* things that cause.

### **6.5 Affecting Without Causing**

I endorsed the following definition of event causation from thing causation:

Event from Thing 2: C causes E if and only if there are some A, B,  $\alpha$ , and  $\beta$ , such that C is the unique doing of  $\alpha$  by A, E is the unique doing of  $\beta$  by B, and A causes B to do  $\beta$  by doing  $\alpha$ .

However, there are certain cases that seem to be counterexamples to this definition (and also to the simpler unsuccessful definition, Event from Thing).

Sometimes we can cause events to unfold in a certain way without causing the events themselves. Following D.H. Mellor's terminology, we "affect [the] events...without causing them" or for short, we "merely affect" them.<sup>147</sup> The best-known cases of mere affecting involve delaying. Suppose that at noon, I have a heart attack, and I am a second from death. Luckily, a doctor is in the house, and she performs CPR, delaying my inevitable death by one minute. I die at 12:01 instead. Plausibly, the doctor does not cause my death. Instead, she merely affects it: she causes it to happen at 12:01. Here is a second example: I affect a chemical explosion, which was already set to occur, by adding some copper chloride to an already explosive

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<sup>147</sup> Mellor 1995, pg. 140

compound. I affect the explosion: I cause it to be more colorful. But it does not follow that I cause the explosion itself.

These cases appear to be cases of fine-grained causation. Like the case of Quinn's shove, they appear to be counterexamples to Thing from Event. Recall:

Thing from Event: A causes B to do  $\beta$  by doing  $\alpha$  if and only if there are two events C and E such that C is a doing of  $\alpha$  by A, E is a doing of  $\beta$  by B, and C causes E.

However, mere affecting seems to be a rather special kind of fine-grained causation. Whereas Quinn's shove is a counterexample to the backward direction of Thing from Event, cases of mere affecting threaten its *forward* direction. The doctor, by administering CPR, causes me to die at 12:01, but her administration of CPR does not cause my death at 12:01. I cause the compound to explode colorfully, even though the addition of copper chloride does not cause the colorful explosion. Generalizing this, it seems that A, by doing  $\alpha$ , can cause B to do  $\beta$  in a particular way—to do  $\beta$  G-ly—even though the doing of  $\alpha$  by A does not cause the G doing of  $\beta$  by B (where "G" is an adjectival phrase and "G-ly" is its adverbialization).

Since I reject Thing from Event, one might expect that I would welcome this consequence. But these cases of mere affecting *also* threaten Event from Thing 2, which I accept. Specifically, they threaten its backward direction:

Event from Thing 2 (backward direction): If there are some A, B,  $\alpha$ , and  $\beta$ , such that C is the unique doing of  $\alpha$  by A, E is the unique doing of  $\beta$  by B, and A causes B to do  $\beta$  by doing  $\alpha$ , then C causes E.

Both cases seem to be counterexamples. The doctor causes me to die at 12:01 by administering CPR, but the administration does not cause my death at 12:01. I cause the compound to explode colorfully, by adding copper chloride. The addition of copper chloride does not cause the colorful explosion.

However, I do not think that these are actually counterexamples to Event from Thing 2, or to Thing from Event. I think that thing-causal statements are simply false. The doctor does not cause me to die at 12:01. She does nothing to causally contribute to my dying at all, let alone to my dying specifically at 12:01. It makes no sense to say that she does not cause my death, but she does cause me to die at a specific time. Thing from Event and Event from Thing 2 rightly predict that this is a contradiction. Similarly, I do not cause the compound to explode colorfully, since I don't contribute to its exploding at all.

(It may look like I am relying on a principle here according to which A, by doing  $\alpha$ , causes B to do  $\beta$  G-ly only if A causes B to do  $\beta$ . Not so; I reject that principle. Counterexamples arise when the fact that A does  $\alpha$  is stronger than needed to suffice for the fact that B does  $\beta$ . Suppose you cause me to respond angrily by loudly swearing at me. It does not follow that you cause me to respond by loudly swearing; this is overly specific, for my hearing is perfectly fine, and I respond just as readily to polite addresses. The principle I am relying on, rather, is that if A causes B to do  $\beta$  G-ly by doing  $\alpha$ , then the fact that A does  $\alpha$  must be causally *sufficient* for the fact that B does  $\beta$ , even though it may not be a cause, since it is too strong. The doctor's administering CPR is not causally sufficient for my dying at any time.)

By denying the thing-causal statements, we avoid the problem for Thing from Event. But now we face a new puzzle: what *do* I cause? I affect the explosion, and surely affecting it amounts to causing *something*. What exactly? How do we capture this causation? Some philosophers have suggested that at least some causation should be captured in contrastive terms.<sup>148</sup> I think that this is true of cases of affecting without causing: we need contrastive causation to capture what the doctor and I cause. I do not cause the compound to explode, or to explode colorfully. I cause it to explode colorfully *rather than colorlessly*. The doctor does not cause me to die at any time; she causes me to die at 12:01 rather than at 12:00. In general, cases of affecting an event without causing it may be understood as involving irreducibly contrastive causation.

This seems to pose a further problem. I argued in §4.7 that thing causation is finer-grained than event causation: more causation can be captured in thing-causal terms than in event-causal terms. But it turns out that we can do better still with contrastive causation. If we help ourselves to contrasts, we can capture more causation. This is worrisome for me, because it might turn out that contrastive *event* causation is no less fine-grained than contrastive *thing* causation; and so thing causation loses its advantage over event causation.

But none of this should worry those of us who think that causation is thing causation. For the idea that causation is irreducibly contrastive tells in favor of this view. Contrastive causation fits much better with thing causation than with event causation. In fact, it is not

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<sup>148</sup> Schaffer 2005

clear how event causation could be contrastive at all. For the contrast is between what occurs and what does not occur; and all events occur. In the case of the doctor performing CPR on me, the contrast is between whether I die at 12:01 or instead I die at 12:00. The former occurs; the latter does not. But the latter cannot be an event, because every event occurs. It is better to understand the effect as involving me, something I do—die at 12:01—and something I don't do—die at 12:00. The doctor, by performing CPR, causes me to die at 12:01, rather than at 12:00. Similarly, I cause the compound to do one thing—explode colorfully, rather than another—explode colorlessly.

There are other approaches to the relation of contrastive causation. One might take the contrast relation to be events that somehow fail to occur (perhaps because they are merely possible events, and only actual events count as really occurring). Or, more plausibly, one could take the contrast relation to be false propositions about what things do: the false proposition that I die at noon, and the false proposition that the compound explodes colorlessly. But contrastive causation is most naturally and most plausibly understood as a relation between things and act types.



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