ESSAYS ON CAUSATION

Introduction

The dissertation analyzes several topics that are of central importance to our understanding of causation, including the nature of events, the transitivity of the causal relation, the determination of the correct causal relata, and the different kinds of dependence that effects have on their causes.

A reductive analysis of causation has proven to be hard to develop. Versions of covering-law analyses and counterfactual analyses are the main extant accounts, but both types of theories face a seemingly endless procession of counterexamples. Nevertheless, exploring the nature of some of these counterexamples and developing workable solutions, in particular for those examples where our causal intuitions are clear-cut, can help us move towards a deeper understanding of the nature of the causal relation. Such an understanding would contribute to a number of current debates on related topics in (to name a few) the philosophy of mind, perception, color, and action, and thus should be of general interest. Even if one took the pessimistic view that no reductive analysis of causation is possible and that we must take causation as a primitive, unanalyzable relation, the development of a sophisticated view of the causal relation, its relata and its properties (e.g., transitivity) is needed to underpin causal theories in other areas.

The dissertation consists of three loosely related chapters: the first two address central counterexamples to the main reductive analyses of causation, show how these problems have been misunderstood and their solutions misconceived, and develop alternative, intuitively plausible analyses that avoid the counterexamples. In the third chapter, I begin to apply some of the insights gleaned from the work in the first two chapters to develop a new conception of the kind of causal requirements agents must meet in order to be morally responsible for effects of their acts. In future research, I plan to use the conclusions I draw from the new analyses in chapters one and two to help
resolve extant problems with mental causation, the individuation of action and agent causation, and philosophical theories of color and dispositions.

In the first chapter of the dissertation, ‘Keeping Track of the Time’, I consider the problem of late preemption for counterfactual analyses of causation. Counterfactual analyses of causation (at their simplest), tell us that if $c$ is a cause of $e$ if $c$ occurs, $e$ occurs, and if $c$ had not occurred, then $e$ would not have occurred. Causation is (usually) taken as the ancestral of the relation of counterfactual dependence. The problem of late preemption is of central importance both because it is the main counterexample to counterfactual analyses (it is the clearest counterexample and has received by far the most attention in the literature), and because it highlights a flaw in such analyses: the oversensitivity of counterfactual dependence to the presence of other potential causes.

In these commonplace cases, but for the preemption of one of the causes, an effect would have been causally overdetermined, so the occurrence of the effect is not counterfactually dependent upon the event that we (intuitively) think is the cause. For example, two gunmen pursue a victim: the first gunman shoots the victim to death on Tuesday at 4:00 p.m. The second gunman, who then desists, would have shot the victim to death at 4:15 p.m. on the same day. The first gunman is the preempting cause, the second gunman the preempted cause. The problem for the counterfactual analysis is this: it is intuitively clear that the shooting by the first gunman should be counted as a cause of the death of the victim. But the counterfactual analysis gives us the wrong answer, since the death is not counterfactually dependent upon the shooting by the first gunman, since had the first gunman not shot, the second would have, so the death of the victim would still have occurred. I argue that a simple emendation can solve the problem.

In these examples, one cause brings about the effect slightly earlier than the other cause would have, so the occurrence of the effect would have been delayed had the preempted cause caused the effect. Based on this, I argue that revising causal dependence can resolve such examples: $e$ depends causally on $c$ if $c$ occurs, $e$ occurs, and if $c$ had not
occurred, then \( e \) would not have occurred, or would have occurred later than the time that it actually did occur. (I discuss a suitably revised indeterministic version as well.) As usual, causation is taken to be the ancestral of dependence. The revised analysis implies that we should accept hasteners as causes, and I show how this can be done without assuming a questionable metaphysics of events. I also argue that accepting hasteners as causes can be motivated independently, since in many cases this acceptance accords with our commonsense judgments.

In the second chapter, ‘Aspect Causation’, I discuss the problems with determining an adequate specification of eventhood and with maintaining the transitivity of causal relation as characterized within covering law and counterfactual analyses of deterministic causation. Normally, we think causation is transitive: if Suzy causes Billy to turn red, and if Billy’s turning red causes Lucy to laugh, then Suzy is a cause of Lucy’s laughter, i.e., if \( c \) causes \( d \) and \( d \) causes \( e \), then \( c \) is a cause of \( e \). I discuss several intuitively clear cases where, according to covering law and counterfactual analyses, \( c \) causes \( d \) and \( d \) causes \( e \), yet intuitively, \( c \) should not be counted as a cause of \( e \), and show how this problem is related to troubles with the characterization of identity conditions for events.

I argue that in order to preserve the transitivity of causation (and to avoid problems involving the individuation of events), reductive analyses of causation, both covering law and counterfactual, should hold that the logical parts of events, what I call \textit{aspects}, rather than events or facts are the causal relata. My view sheds light on causal explanation: descriptions of events that contribute to causal explanations are those that refer to the logical parts of the events that are the causal relata. Moreover, accepting that logical parts are the causal relata allows us to sidestep many of the most pressing worries about how to individuate events properly: we can even hold the view (which I defend in the text), that identity conditions for events are context dependent without jeopardizing the context independence of the causal relation.
I discuss how aspect causation is compatible with the semantics of causal talk, and argue for a new reductive analysis of causation based on the idea that aspects are the causal relata. The analysis resolves the main extant problems for deterministic analyses of causation, and provides a much needed underpinning for the loose causal talk in debates about mental causation (where aspects of events are routinely assumed to be causal relata even though an adequate analysis that supports this claim has been largely absent from the literature on physical causation.)

In the third chapter, ‘Risk, Luck and Responsibility’, I return, for ease of exposition, to the assumption that the causal relata are events (it does not affect the main argument), and investigate the way causal claims are used to assess moral responsibility. Causal responsibility is normally assumed to be necessary for moral responsibility. For an agent to be held morally responsible for an event, she must be, at the very least, causally responsible for the event: her act must have caused or be one of the causes of the event.

Or so we might think. I argue that this view is mistaken, and that strictly speaking an agent does not need to be causally responsible for an event to be held morally responsible for it. When we investigate borderline cases, it turns out that our normal everyday concept of moral responsibility does not require causal responsibility, but a more subtle notion I’ll call causal ancestry.

The explication of the correct causal constraints shows that in order to ascribe moral responsibility, what is needed instead of causal responsibility is causal ancestry: an agent must cause at least one of a series of causal steps, upon which moral responsibility of an agent can piggyback. What we require for moral assessments is the notion that moral responsibility piggybacks down a causal chain, even when causation is intransitive, i.e., so that even if a causes b and b causes c, but a does not cause c, the agent who performed a may still be morally responsible for c.
In order to show that agents can in principle be held responsible for effects at the ‘end’ of a causal chain, I argue, *contra* Thomas Nagel and Bernard Williams, that once we make a careful analysis of an agent’s causal responsibility for an event, the notion of moral luck is not paradoxical and we can justify (to some extent) the role that luck plays in our moral evaluations of agents. My discussion of the problem of moral luck helps to explicate just what sort of causal constraints are necessary for the ascription of moral responsibility.

In addition to arguing that causal responsibility is not necessary for moral responsibility, I argue that the causal constraints we need do not require that agents’ acts affect the effect for which they are morally responsible; that is, even if an act in no way affects how or when a particular outcome occurs, if other appropriate causal constraints are met, the agent who performed the act can be held morally responsible for the outcome.

I develop the justification for these claims through an investigation of the role of causal responsibility in some key examples together with an examination of moral assessments that involve luck. The examples I focus on are cases where for unusual reasons it is unclear whether the transitivity of the causal relation holds. Nevertheless there is justification for thinking, regardless of the causal microstructure of the case, that the agent is morally responsible for the event that is at the end of a series of causal steps that originated with his action.
Chapter One

Counterfactual analyses of causation, while providing elegant and clear solutions to many cases of causation, are faced with several problems, the most pressing of which involves a commonplace variety of late preemptive causation. I am going to argue for a solution to this problem. In my discussion, I will take as my point of departure David Lewis’s counterfactual analysis, as set forth in volume two of his 1986 *Philosophical Papers* (1986a-d).

1. Lewis’s Analysis.

Lewis’s (1986a: 159-172) counterfactual analysis of causation states that \( e \) depends counterfactually on \( c \) iff for any two actual, distinct events \( c \) and \( e \), had \( c \) not occurred, \( e \) would not have occurred. Causation is taken as the ancestral of the relation of counterfactual dependence: \( c \) causes \( e \) iff there is a chain of counterfactual dependencies running from \( c \) to \( e \). \(^2\) The account is modified slightly for probabilistic causation (Lewis 1986b: 175-184); the guiding intuition is that a cause must raise the probability of the effect. The probabilistic version of the analysis for dependence states that if \( c \) were to occur, the chance of \( e \)’s occurring would be \( x \), and if \( c \) were not to occur, the chance of \( e \)’s occurring would be \( y \), where \( x \) is much greater than \( y \). Causation is again taken as the...
ancestral, this time of the relation of probabilistic dependence, so $c$ causes $e$ iff there is a chain of probabilistic dependencies running from $c$ to $e$. The chance of the effect’s occurring is assessed immediately after the cause occurs, and the truth value of the counterfactual at each step is evaluated based upon that chance.

There are problems with both accounts which have been noted by Lewis (1986b, 172-213) and Peter Menzies (1996, 86-89, 95-96). The most pressing of the problems involve preemption, cases where we have redundant causation ($c_1$ and $c_2$ both occur, and each in the absence of the other is sufficient to cause $e$) but $c_1$ preempts $c_2$. In cases of preemption, the occurrence of $e$ does not counterfactually depend on the occurrence of $c_1$, since $e$ would have occurred without the occurrence of $c_1$ ($c_2$ would have caused $e$).

However, in these cases, it is intuitively clear that $c_1$ is a cause of $e$ but $c_2$ is not.

There are two varieties of preemption, early and late. Lewis defines early preemption as a case where ‘...the process running from the preempted alternative is cut off well before the main process running from the preempting cause has gone to completion.’ (1986b: 200) He solves these cases by relying on step-wise dependence. Since the preemption is early, there exists an intermediate event $d$ along the process of the preemting cause that occurs after the causal process of the preempted alternative has been cut off. Since the effect causally depends on this intermediate $d$, and since $d$ causally depends on the preemting cause, by transitivity, the preemting cause comes out as the cause of the effect.

What Lewis labels 'late preemption' is presented as the main problem in his 1986 account. It occurs when the process running from the preempted alternative is cut off very late, so late that there is no intermediate event $d$ in the preempting causal process left to occur after the process of the preempted alternative is interrupted. In the cases that are of particular concern to him, the alternative causal process runs more slowly than the

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3 We could have more than one preempted cause. For simplicity, unless otherwise specified, I will assume the case where there are only two (possible) initial causes, one preempting and one preempted.
main process, so that the alternative process is cut off by the effect itself. If the
preempted cause had been left to produce the effect, the effect would have been delayed.
(Lewis 1986b, 203-4) Lewis points out that these cases are particularly troublesome
because they are commonplace occurrences in our world, and our common sense
intuitions give us clear answers as to which event counts as the cause.

Consider an example: a showdown at high noon, where Quickdraw McGraw and
Slow Joe face off against Billy the Kid.⁴ At a few seconds before noon, McGraw and Joe
see Billy and begin to draw their guns virtually simultaneously. However, McGraw’s
draw is a bit faster than Joe’s, so McGraw fires first, and as a result, his bullet gets there
first. As it happens, McGraw shoots Billy dead at 12:00:00. Billy dies instantly from the
bullet wound (imagine it complete with entry hole in the chest and exit hole out the
back.) Without McGraw’s act, he would have died that same day, but at 12:00:01, by the
hand of Slow Joe (we’ll say that Joe would have shot him in exactly the same place on
his chest). So if Billy had not died at 12:00:00, he would have died at 12:00:01; the
preempted process is doomed only by the occurrence of the effect (the death) itself.
Assuming that the event of the death at 12:00:00 is close enough in relevant respects to
the death at 12:00:01 to call them the same event, Billy’s death is not counterfactually
dependent on McGraw’s acts (for without McGraw’s actions of drawing and shooting his
gun, Joe’s shot would have killed Billy). Further, there is no stepwise dependence, since
the preempted process is not doomed until after the occurrence of the effect itself.

Since there is no counterfactual dependence of Billy’s death on McGraw’s
shooting, McGraw’s actions are not, according to the original (1986a) counterfactual
analysis, among the causes of Billy’s death. This conclusion violates our common sense
intuitions about what happened: it should be the case, if we had an acceptable analysis of

⁴In keeping with the tradition of gory examples featuring violent death.
causation, that McGraw’s act of shooting Billy (and by transitivity, his act of drawing his gun) are among the causes of Billy’s death.

2. *Fragility.*

One way of solving the problem of late preemption would be to adopt a theory of the extreme *fragility* of events. ‘Call an event *fragile* if, or to the extent that, it could not have occurred at a different time, or in a different manner.’ (Lewis, 1986b, 196) If you think that the death of Billy, had it happened as the result of Joe’s bullet a second later, is different from the death of Billy as it actually (in our story) happened, then you might be inclined to adopt such a view to solve cases of preemption. For if the death that Billy died as the result of McGraw’s act is different from the death he would have died as the result of Joe’s act, then the requisite counterfactual dependence of Billy’s death-by-the-hand-of-McGraw is secured.

However, the view has some undesirable consequences. First of all, recognize that the standards of fragility, in order to solve cases of late preemption, must be extreme indeed: we may specify that Joe’s bullet was (in all ways we can think of) exactly similar to McGraw’s bullet, we may specify that both bullets followed the same trajectory, would have struck with the same force, that the details of Billy’s demise—apart from the time of death—would have been exactly the same, whichever bullet killed him, etc. Yet to solve the problem of late preemption using fragility, we would have to accept that the deaths are different, no matter how much the same they seem, simply because one death would have occurred a second later. This I think is unreasonable—common sense says that a death that happens a second or a millisecond later than it otherwise would have is the same death, not an entirely different event—and moreover, such a metaphysics of event essences would create serious trouble elsewhere. (Lewis, 1986d, 243)⁵

⁵ Lewis discusses some of the problems that result from accepting events as extremely fragile in Lewis 1986d, 255-259.
Heaped upon these consequences is another: accepting such a plethora of events entails accepting many more causes—some of which might seem questionable.\(^6\) If we get a different event for every possible difference in time and manner in which something can occur, then anything that would contribute to the difference would count as a cause, since it would create a new event. By way of example, Lewis considers a firing squad: if one of the eight soldiers doesn’t shoot, but ‘the minute difference made by eight bullets instead of seven is enough to make a different event... [then] the gentle soldier caused the death by not shooting, just as much as [the other soldiers] caused it by shooting! This is a *reductio*.’ (Lewis, 1986b, 198) I think that the problem of spurious causes is to some extent defeasible (see section four on hasteners and delayers). However, since the thorny issues surrounding the problem of the identity conditions for events seem impregnable, I reject the fragility solution to late preemption.

3. *Quasi-dependence*.

Lewis (1986b, 205-7) suggests an amendment to his counterfactual analysis in order to handle late preemption: *quasi-dependence*. Quasi-dependence is supposed to give us a kind of causation, based derivatively on counterfactual dependence. The idea is to combine an assessment of the intrinsic character of the ‘process’ between the two events in question (the preempting cause \(c_1\) and the effect \(e\)) which occurs in the relevant spatiotemporal region together with the relevant laws in order to decide whether \(c_1\) causes \(e\). Even though \(e\) may not be counterfactually dependent on \(c_1\), the intrinsic character of the process which occurs in that region may be just like the intrinsic character of processes that occur in other relevant regions with the same laws. (A relevant region is a region of the same world or of different possible worlds with the

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\(^6\) I argue below that hasteners should be accepted as causes, although Lewis (1986b) considers hasteners to be spurious causes. I think some other kinds of events (especially delayers) are probably O.K. as causes too. (I discuss hasteners and delayers in §4.)
same laws where what goes on is just like what goes on in the region with the events between \(c_I\) and \(e\). Events that are not part of the process being evaluated are classed as irrelevant and are not included.)\(^7\)

Suppose we have processes—courses of events, which may or may not be causally connected—going on in two distinct spatiotemporal regions.... Disregarding the surroundings of the two regions, and disregarding any irrelevant events that may be occurring in either region without being a part of the process in question, what goes on in the two regions is exactly alike. Suppose further that the laws of nature that govern the two regions are exactly the same. Then can it be that we have a causal process in one of the regions but not the other? It seems not. Intuitively, whether the process going on a region is causal depends only on the intrinsic character of the process itself, and on the relevant laws. The surroundings, and even other events in the region, are irrelevant. (Lewis 1986b, p. 205)

If enough of the processes in the other relevant regions exhibit the proper counterfactual dependence, then, suggests Lewis, perhaps we may say that \(e\) quasi-depends on \(c_I\). We can take the ancestral of the quasi-dependence relation and accept quasi-dependence as a kind of causation, and use this notion as a solution for problems involving late preemption. ‘[W]e could redefine a causal chain as a sequence of two or more events, with either dependence or quasi-dependence at each step. And as always, one event is a cause of another iff there is a causal chain from one to the other.’ (Lewis, 1986b, 206) In this way, we can evaluate whether or not one event causes another without having to worry about the presence of irrelevant alternative processes (such as the process of the preempted cause \(c_2\) which is responsible for the failure of \(e\) to depend counterfactually on the preemting cause \(c_I\)) interfering with our causal judgments.

This solution would seem to solve the problem. In the case with Quickdraw McGraw, we take the relevant process to be the chain of events that runs from

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\(^7\) As noted above, Lewis’s solution is only intended to be a rough characterization; many problems are left for a later analysis. As a result, I’m not sure how we are supposed to decide (in the context of the quasi-dependence analysis) which processes are relevant or which events are to be included in a process. I suspect these issues will not be resolved easily, and I think my discussion in this section shows that there are some deep worries one should have about quasi-dependence. I discuss this problem further at the end of this section. Ned Hall (1997a) also discusses some problems with relevance.
Quickdraw’s death to the death of Billy, and compare it to processes with the same intrinsic character in regions of other possible worlds with the same laws as the world of our example, but where Slow Joe isn’t around.⁸ (Pretend, for the sake of simplicity, that our example is set in the actual world.) Since in all those processes Billy’s death depends counterfactually upon, and so is caused by, McGraw’s act, we may say that in our example Billy’s death quasi-depends upon, and so is caused by, McGraw’s act.

But what about Slow Joe? If we look at other relevant regions with processes with the same intrinsic character as the process in the region of the actual world where Slow Joe’s draw (and shot) occurs and Billy’s death occurs (except that McGraw was nowhere to be found), would it be the case that Billy’s death would depend counterfactually, in these worlds, upon Joe’s acts? It seems, prima facie, that it would. But then Billy’s death would quasi-depend on Joe’s acts, and Joe’s acts would also be counted among the causes of Billy’s death.

How can Lewis avoid this result? Presumably by denying, for the processes with the same intrinsic character as the process in the region of the actual world where Slow Joe’s draw (and shot) occurs and Billy’s death occurs, that Billy’s death depends counterfactually upon Joe’s acts. Lewis defines processes as ‘courses of events, which may or may not be causally connected.’ (Lewis 1986b, 205) Although it is not perfectly clear what he means by a ‘process’ or by ‘intrinsic character’, there is a fairly obvious way to interpret his view.⁹ As the story was told, there is no uninterrupted chain of events between Joe’s shot and Billy’s death, since one or more events, such as the impact of Joe’s bullet with the skin of Billy’s (untouched) chest, did not occur. (Since by hypothesis, Joe would have hit the same spot as McGraw did, but by the time Joe’s bullet arrives, there’s already a big hole there.) Therefore, in the processes with the same

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⁸ We might be able to do the comparison in the same world as the example, if conditions were right.
⁹ This is the interpretation given to Lewis by Ganeri, Noordhof and Ramachandran (1996) and Ramachandran (1997).
intrinsic character as the actual process (of the example) between Joe’s shot and Billy’s death, there are one or more events missing in the chain that are needed in order to have the requisite counterfactual dependence of Billy’s death upon Joe’s acts. Billy’s death does not quasi-depend on Joe’s acts, so Joe’s acts are not a cause of Billy’s death.\textsuperscript{10}

But although quasi-dependence as I’ve presented it here can provide the right solution for this example, it won’t do as a general analysis—even for cases with intuitively clear verdicts such as the ones that Lewis is particularly concerned with. To see why, consider a modified version of our example.

Return to our showdown, and recall that Quickdraw McGraw and Slow Joe begin to draw at virtually the same time, but Joe’s draw is a little slower, so McGraw’s shot occurs first, so his bullet hits Billy’s chest first. This time, imagine that McGraw uses a gun that works the regular way. However, Joe (who would have caused the death, had Billy not been killed exactly at noon) has a special gun that works by action at a distance: he aims the gun and shoots at a victim, and after a short time (about as long as a regular gun takes), the victim dies (in exactly the same gory fashion that he would have died had he been shot by a regular gun; holes in his back and chest open up, etc.)\textsuperscript{11} By definition, there are no events in between the shooting of the gun and the death of the victim—a standard action at a distance scenario. Now, in the world of our example, Billy is killed at 12:00:00 by McGraw’s gun, but if he hadn’t been killed at 12:00:00, he’d have been killed at 12:00:01 by Joe’s special gun. So the causal process originating with Slow Joe’s act is preempted by Quickdraw McGraw’s act. However, \emph{no events in the preempted causal process are prevented from occurring}.

\textsuperscript{10} Ganeri, Noordhof and Ramachandran (1996) use this response to argue for their PCA-analysis of causation. The arguments against the quasi-dependence account that I present here are counterexamples to that account, as well as to Ramachandran (1997).
\textsuperscript{11} We’ve been pretending that this is the actual world. If you think that it is too far of a departure from the actual world to imagine this scenario as part of it, pretend that it occurs in a possible world that is the same in as many respects as possible to our world, except that action at a distance is commonplace there.
As a result, the quasi-dependence analysis would misclassify Slow Joe’s act as a genuine cause of Billy’s death, since in the processes with the same intrinsic character as the process in the region of the actual world where Slow Joe’s draw (and shot) occurs and Billy’s death occurs, except that McGraw was nowhere to be found, this time it is the case that Billy’s death would depend counterfactually, in these worlds, upon Joe’s acts, since no events in the process are missing.

Now, this case involves action at a distance. Lewis might reasonably reject this example as too far-fetched to count as a counterexample: after all, he rejects other examples involving action at a distance as too far from daily experience to require solutions that respect common sense opinions. However, even for those who reject action at a distance examples, the case serves as a clear example of what is wrong with quasi-dependence: that missing events are not a necessary part of the most problematic cases of late preemption. The same problem returns when we consider slightly more complicated cases that do not involve action at a distance.

All we have to do to get the wrong answer using quasi-dependence is to try and determine the cause of an event early enough in the sequence of events. In our original showdown case, where McGraw and Joe had the same sort of gun, but Joe’s draw was a little slower, you might think quasi-dependence works just fine: after all, several events in the causal process from Joe’s acts to the death of Billy are prevented from occurring. One such was, as we noted above, the event of Joe’s bullet making a hole in the skin of Billy’s chest.

But let’s change our focus from Billy’s death to an effect that happens a bit earlier: let’s ask what the cause was of the hole in Billy’s chest, or earlier yet, what the cause was of the initial impact of a bullet with Billy’s chest. When we do this, we see that we again have two causal processes, a preemting process (McGraw’s drawing and shooting to the impact) and a preempted process (Joe’s drawing and shooting to the impact). Here, quasi-dependence gives us the wrong answer, since again, no events that
are part of the causal process from Joe’s act to the effect in question (the impact on Billy’s chest) were prevented from occurring: it tells us that both events, McGraw’s shooting and Joe’s, are causes of the impact. If you still find yourself worrying about events in Joe’s causal process being prevented, take an even earlier event: the presence of a bullet in the space directly in front of Billy’s chest, the disturbance of the air molecules in this general area; whatever you please. The way the case has been set up, there will be some initial event that the first bullet causes and that the second bullet would have caused. Whatever that event is, ask what caused it—McGraw’s acts or Joe’s?

Alternatively, you might want to claim that the event of the initial impact of a bullet with Billy's chest is different depending on whether or not the bullet was McGraw's or Joe's. Such a solution relies too heavily on fragility, i.e., that the event of an impact by a bullet shot by McGraw’s gun must be different from an impact by a bullet shot by Joe’s gun, even if the impacts were in all respects qualitatively similar. Lewis rejects fragility solutions of this sort, as do I. Moreover, to accept fragility solutions like this one would solve the problem of late preemption outright, which would eliminate the need for the quasi-dependence analysis.

So quasi-dependence, unamended, will not give us the right answer even for the sorts of cases of late preemption where the solution is unambiguous. But perhaps we can develop the account a bit more so as to resolve the problems (after all, the account was originally presented as a sketch, not as a developed analysis.) What is needed is a more explicit characterization of the intrinsic character of the process in the region we are evaluating. In particular, stipulate that a process can only be considered to have the same intrinsic character as another process if the events in the two processes occur with exactly the same spatiotemporal arrangement.

Call the process we are evaluating for causal dependence the ‘old’ process and the process(es) we are using to determine whether or not the old process is causal the ‘new’ process(es). Under this analysis, if an event $q$ in the old process from Slow Joe’s firing to the impact of a bullet with Billy’s

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12 If you still find yourself worrying about events in Joe’s causal process being prevented, take an even earlier event: the presence of a bullet in the space directly in front of Billy’s chest, the disturbance of the air molecules in this general area; whatever you please. The way the case has been set up, there will be some initial event that the first bullet causes and that the second bullet would have caused. Whatever that event is, ask what caused it—McGraw’s acts or Joe’s?

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13 As mentioned above in footnote nine, these examples immediately refute the analyses of late preemption given by Ganeri, Noordhof and Ramachandran (1996) and Ramachandran (1997), since these accounts rely on there being missing events in the preempted causal process.

14 It may be that Lewis intended this interpretation of intrinsic character all along, since his description of the process with the same intrinsic character reads ‘what goes on in the two regions is exactly alike’. It is unclear to me what he intended, as the account is only a sketch and leaves the notion of ‘intrinsic character’ largely unexplicated. In any case, as argued later in this section, I think there are problems even with the version where stringent identity conditions are required for ‘same intrinsic character’.

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chest occurred \( n \) seconds after Joe’s firing, then in the new process that we evaluate to check for quasi-dependence, (the counterpart of) \( q \) must occur \( n \) seconds after (the counterpart of) Joe’s firing.\(^\text{15}\)

This condition allows the quasi-dependence analysis to solve the example. In our example, the problem was that the event of the impact of a bullet with Billy’s chest occurred before Slow Joe’s bullet could cause it. The original quasi-dependence analysis then mistakenly classes Slow Joe as a cause, since in many of the new processes, under the original quasi-dependence analysis, the impact of a bullet with Billy’s chest will depend upon Slow Joe’s shot. But in the amended version, the only processes that would qualify as new processes with the same intrinsic character would be those where the impact occurs at time \( t \), before Joe’s bullet can cause it. (Suppose the time needed for the impact to depend on Joe’s acts is \( t+n \), a moment after \( t \).) Since we are evaluating the new processes in worlds with the same laws as our own, we can say that under the laws of those regions, the impact that occurs at \( t \) does not quasi-depend on Joe’s acts. If the impact does not quasi-depend on Joe’s acts, then Joe’s acts are not, under the analysis, a cause of the impact.

You might think that the emended quasi-dependence solution sounds pretty good. But there are reasons to feel uncomfortable with it. The first reason involves fragility-style considerations. For those of us (including Lewis) who reject fragility, requiring that the quasi-dependence of events on other events involves stringent identity conditions for events could be a bit awkward. Call an impact of a bullet with Billy’s chest that occurs at time \( t \), \( q \). Take another event that is qualitatively identical with \( q \), except that it occurred at \( t+n \), a fraction of a moment later than \( q \), and call it \( q^* \). Under Lewis’s views about fragility, it is a mistake to think that, necessarily, \( q \) and \( q^* \) are different events (or could not be duplicate or counterpart events.) Now, under the new quasi-dependence analysis,

\(^{15}\) David Lewis suggested this solution to me in conversation.
Lewis would be claiming that in the processes with the same intrinsic character as the region of the actual world that we are evaluating, the (counterpart of the) impact that occurs at \( t \) does not depend on (the counterpart of) Joe’s acts. But claiming that (the counterpart of) the impact that occurs at \( t \) does not depend on (the counterpart of) Joe’s acts, even though (the counterpart of) an impact that occurs at \( t+n \) would depend on (the counterpart of) Joe’s acts, seems strange when elsewhere we have rejected the idea that if an event occurs at a slightly different time or in a slightly different manner it must be a different event.\(^{16}\) Under the laws of the new regions, the impact that occurs at \( t \) does not depend on Joe’s acts, even though an impact that occurred at \( t+n \) would. But how do we move from this conclusion to the claim that the impact (without strict temporal identity conditions) does not depend on Joe’s acts simpliciter, unless we are implicitly denying that an impact that is qualitatively identical to the impact at \( t \) (except that it occurs at \( t+n \)) could be the same event as the impact at \( t \)? It seems to me that if an impact that occurs at \( t+n \) would depend on Joe’s acts, in the new quasi-dependence analysis if we reject the idea that the impact could depend on Joe’s acts because the impact (at time \( t \)) could not depend on Joe’s acts, we are basically rejecting the idea that, with respect to quasi-dependence, the impact at \( t+n \) could be the same event as the event of the impact at \( t \). This violates a guiding intuition behind the rejection of fragility analyses.

Moreover, the amended quasi-dependence analysis still requires significant explication. The biggest problem for the analysis (amended or not) involves how to specify, in a noncircular way, which events are relevant to include in a process and which are not when we evaluate events for quasi-dependence. How could we noncircularly specify, for example, that we only want to include in the process that we evaluate for quasi-dependence the events in the spatiotemporal region ‘between’ Joe’s acts and the impact of the bullet which are part of the sequence of events that we think might be a

\(^{16}\) Here, \( t+n \) is a fraction of a moment later than \( t \).
causal chain? Even if we could specify a particular spatiotemporal region ‘between’ Joe’s acts and the impact of the bullet, how could such a specification be defined so as include just the ‘relevant’ events while weeding out other, ‘irrelevant’ events that also occur at the same spatiotemporal point or at nearby spatiotemporal points as the ‘relevant’ events? Further, Ned Hall (1997a) points out that even spatiotemporal restrictions may not be sufficient, since counterfactual dependence between events can be affected by events distant from a particular spatiotemporal region.

I think the worries about fragility, intrinsic character and relevance should be enough to make the quasi-dependence account (amended or original) unattractive. Lewis (1986b) himself admits that ‘[i]ntuitions of what is intrinsic are to be mistrusted’ (205) and that he would ‘... still welcome a different solution to the problem of late preemption.’ (207) A more straightforward emendation to the original counterfactual analysis, one which can handle the sorts of cases of late preemption where common sense gives us a clear verdict (even if it cannot handle all of the far-fetched cases involving action at a distance), would be preferable. I develop such an emendation in the next section.

4. Hasteners.

Why do we identify, without question, McGraw’s act as the cause of Billy’s death? The common-sense answer is that we are sure that McGraw’s act and not Joe’s was causally responsible for Billy’s death since we know that McGraw’s bullet got there first. McGraw’s act caused the death before Joe’s act would have—so McGraw’s act is

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17 Hall (1994, 1997) has also pointed out that there are other problems with the quasi-dependence account that arise from combining cases of late preemption with what he calls ‘double prevention’. Ramachandran (1997, 265-6) argues that accepting the quasi-dependence strategy precludes the acceptance of one-off causal dependence, and Ganeri, Noordhof and Ramachandran (1996) argue that the central notions of the quasi-dependence account are unclear. Clearly, the account is beleaguered.
the genuine cause. Recognizing this can help us to a solution to the problem of late preemption, one which has all of the benefits but few (if any) of the costs of fragility. Recall that in the cases which Lewis identifies as problematic, the chunk of the preempted causal process that we are interested in runs more slowly (or starts later than) that of the preempting causal process. Thus, the occurrence of the effect is earlier than it would have occurred as the result of the preempted cause; in this sense, the occurrence of the effect is the event that preempts the slower causal process.

So in each of these cases, the effect, supposing that it would have been the same effect, would have been delayed had it been caused by the preempted cause. This directs us to a simple solution: amend the original counterfactual analysis for deterministic causation to read: $e$ depends causally on $c$ iff $c$ occurs, $e$ occurs, and if $c$ had not occurred, then $e$ would not have occurred at all, or would have occurred later than the time that it actually did occur. Causation is taken as the ancestral of the relation of causal dependence: $c$ causes $e$ iff there is a chain of causal dependencies running from $c$ to $e$. Often, of course, the additional clause ‘would have occurred later than the time that it actually did occur’ will make no difference, because often it will be clear that without the cause, the effect would not have occurred at all. Moreover, I think it is natural to think of the time that an effect occurs as dependent upon what causes it. So long as we still accept transitivity, this emendation allows us to retain Lewis’s two-step solution to early preemption where the effect causally depends upon an appropriate intermediate event which causally depends in turn upon the preempting cause.\footnote{The solution will not allow us to solve the far-fetched cases of late preemption that Lewis (1986b) explicitly disregards. I discuss this in §5.}

How would this work in our case with McGraw and Joe? Since if McGraw had not acted, Billy’s death would have occurred later than the time that it actually occurred, McGraw’s act counts as a cause of Billy’s death. Not so for Joe’s act: if Joe had not acted, Billy’s death would still have occurred, and it would not have occurred later than it
actually did. So the proposed emendation allows the counterfactual analysis to solve the problem.

There is, however, an objection to this proposal in its present form. The analysis implies that, invariably, hasteners, events that speed up the occurrence of an effect that would have happened anyway, count among the causes of an effect. For example, a patient with a susceptibility to heart attacks is given a fright on Tuesday, and dies of a heart attack. On Wednesday, had she lived, she would have received a worse fright, and the shock from that would have caused her to die of a heart attack. My argument implies that the fright on Tuesday was one of the causes of the patient’s death.

In this case at least, I find the consequence acceptable, even apart from the motivation one might have to accept it in virtue of the usefulness of a solution to late preemption. It may be that cases with parallel circumstances will also be acceptable. If an event causes an effect to happen earlier than it otherwise would have, then I think that often it is consistent with common sense intuitions to call it one of the causes of the effect. (We might even call it ‘the’ cause of the effect, implying that the cause was particularly salient.) When the doctor’s procedure hastens the death of his patient, we call the doctor’s act a cause of the patient’s death, even if the patient was terminally ill.

Jonathan Bennett (1987, 1988), Ned Hall (1994, 1997a), and Penelope Mackie (1992) argue (for independent reasons) that hasteners are causes. Discussing an example where lightning causes a forest fire, Bennett (1987, 373-4) argues that

‘...you can cause a fire by hastening something’s burning. When we judge that lightning caused this fire, we don’t ask whether the forest would in any case have burned at some future time; and so the way is open for many events that we take to be causes of fires to be merely causes of something’s burning earlier rather than later. Similarly, many causes of falls merely cause the thing to fall earlier than it otherwise would have, and so on through causes of quarrels, reconciliations, thefts,
slumps, recoveries, outbursts, landslides, floods, traffic jams, adjournments, and so on.¹⁹

The most worrisome possibility involved in accepting hasteners as part of the causal history of the effect is that we would have to accept as causes things that speed up the occurrence of an effect by only a minuscule amount. For example, if there were some physical characteristic of the atmosphere that hastened the flash of lightning by a mere millisecond, we would have to count the characteristic of the atmosphere as one of the causes of the forest fire. This might cause skeptics to balk at my solution. But I think such balking might be unwarranted: although it does seem strange to count something as a cause that has such a minute influence on the effect, the strangeness could have more to do with salience than with the unsuitability of hasteners as causes.

In particular, common sense worries about including hasteners as causes may stem from a commonsensical tendency to just focus on causes worth mentioning. There could be lots of reasons why causes aren’t counted as worth mentioning. Maybe hasteners that hasten only a very little bit are some of these. Common sense tells us not to mention that my birth is a cause of my writing this paper, or not to mention that the existence of the sun is a cause of the rise of the Roman Empire. But my birth is a cause of my writing this paper; likewise, the existence of the sun is a cause of the rise of the Roman Empire. Just so, there are many events that count among the causes of the forest fire: the presence of wood, the presence of undergrowth, the presence of oxygen, the lack of dampness, and even the presence of the atmospheric conditions that hastened the lightning; such events are usually not worth mentioning, but they should be counted as part of the fire’s causal history nonetheless.

Since in most cases our common sense intuition is to accept the hastener as a cause; and since in those cases where it isn't the lack of salience can be cited in order to

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¹⁹ Bennett (1988, 69-72) also argues in favor of accepting delayers, events that delay the occurrence of events, as causes of those events. I am also inclined to accept delayers. If you want to accept delayers as well, then, as I note in the main text, emend the counterfactual analysis to read: if c had not occurred, then e would not have occurred at the time that it actually did occur.
explain the apparent discord, I think one should be willing to accept hasteners even when to do so goes (somewhat) against our common sense intuitions. Whether the nurse’s massage hastens the patient’s death by heart attack by a minute or a month, the massage is a cause of the death, even though the cause in the former case seems much less important than the latter. The situation is not unlike the one we find ourselves in when we accept that among the causes of a car crash on an icy road are the availability of petrol, the birth of the driver’s paternal grandmother, and the building of the road. (Lewis, 1986c, 216)  

Moreover, if we take up the suggestion that causation is a matter of degree, we can militate still further in favor of accepting hasteners as causes. If a hastener affects the effect only slightly, such that the effect happens only slightly earlier, then perhaps the hastener is only a very small cause of the effect.

Now, the case that can be made for delayers, events that slow down the occurrence of an effect that would have happened anyway, is somewhat weaker. Intuitively, we do not want to count most delayers as causes: if the doctor’s treatment delays the death of her patient by a minute or even a month, we do not want to cite the doctor’s treatment as among the causes of the patient’s death. The solution that I have

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Mackie (1992, 495-7) does not accept every hastener as a cause of what it hastens: she withholds decision about certain cases that she labels ‘no-priority’ cases. In some of these cases, common sense does not clearly deliver a verdict about whether the hastener is a cause of the effect.

Which track the train will follow when it reaches the junction is determined by the position of a lever in the signal box. If the lever is set to the right, the train will go down the right-hand track, and arrive at the station at 12 noon. If the lever is set to the left, the train will go down the (longer) left-hand track, and reach the station at 12:05. As the train nears the junction, the signalman changes the setting from left to right. Turning the lever is, I think, a no-priority hastener of the train’s arrival at the station. One feels uncomfortable about saying that this no-priority hastener—turning the lever—causes the train’s arrival. (Mackie, 496)

Although I agree with Mackie that accepting hasteners as causes in such cases does not always support our common-sense intuitions, I don’t think that they radically violate them either. We may find these cases difficult to judge simply because the hastener in question is not salient to the context of explanation when we ask what caused the train to arrive at the station. (If the time difference between the arrival of the train on the right-hand track and the arrival using the left-hand track had been several hours, such as 12 noon and 12 midnight instead of 12 noon and 12:05, we might very well be inclined to say that turning the lever was a cause of the train’s arrival.)

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20 Mackie (1992, 495-7) does not accept every hastener as a cause of what it hastens: she withholds decision about certain cases that she labels ‘no-priority’ cases. In some of these cases, common sense does not clearly deliver a verdict about whether the hastener is a cause of the effect.
presented for late preemption does not require the acceptance of delayers as causes. Nevertheless, I am somewhat disposed to accept them anyway, since I think the case can be made that, if *when* an event \( e \) occurs depends on another event \( c \), then \( c \) is a cause of \( e \). The case is made still stronger when, as above, we accept the idea that causation is a matter of degree, which would allow us to consider many delayers as only very small causes—but causes nonetheless—of effects.

Perhaps the puzzling asymmetry in our inclination to accept hasteners and our disinclination to accept delayers as causes stems from differences in the way that these causes change the effect. Hasteners cause an event to happen earlier by *bringing it about* that the event happens before it otherwise would have. Delayers cause an event to happen later by *preventing* an event from happening when it otherwise would have. The event prevented from happening earlier is replaced by an event that happens later.\(^{21}\) (Mackie, 1992) Perhaps our intuitions about whether preventers of events count as causes of the replacement events are not always as clear as our intuitions about other sorts of events counting as causes. (Although I think preventers *are* causes of the events that replace the prevented events.) If we accept delayers as causes, as I think we should, then the emended counterfactual analysis should read: \( e \) depends causally on \( c \) iff \( c \) occurs, \( e \) occurs, and if \( c \) had not occurred, then \( e \) would not have occurred *at the time that it actually did occur*. However, for the purposes of discussion, for now, I will lay aside the question of whether or not delayers are causes.

Now, you might respond to my argument by agreeing that hasteners can be accepted as causes of what they hasten, but think that the solution offers no real advance in understanding. After all, isn’t this just the familiar old fragility solution that we considered and rejected above? The answer is most emphatically *no*. It is true that, were

\(^{21}\) As before, we need not specify whether the prevented event is the same event as the replacement event. If, however, the events are the same, then the delayer is an event that prevents the effect from occurring at the earlier time, and in so doing, causes the effect to occur at the later time.
we to count the death of Billy at 12:00:00 as a different event from the death of Billy at 12:00:01, events that caused Billy’s death to occur at 12:00:00 would count as causes of that death. But we need not count the death at 12:00:00 as different from the death at 12:00:01 for my analysis to succeed; we need only accept that as a hastener, McGraw’s act was a cause of Billy’s death.

More explicitly: Lewis’s (1986b) discussion assumed that a solution to preemption that involved accepting hasteners (and delayers) as causes meant that one would have to accept fragile events, or events that are essentially specified by means of when they occur.

The clearest difficulty concerns [essentially specifying an event by its] alleged constitutive time. It is one thing to postpone an event, another to cancel it. A cause without which it would have occurred later, or sooner, is not a cause without which it would not have occurred at all. Who would dare to be a doctor, if the hypothesis under consideration were right? You might manage to keep your patient alive until 4:12, when otherwise he would have died at 4:08. You would then have caused his death. For his death was, in fact, his death at 4:12. If that time is essential, his death is an event that would not have occurred had he died at 4:08, as he would have done without your action. That will not do. (Lewis 1986d, 250) [Italics added]

I agree that it is a mistake in this case to think that a death that would have occurred at 4:08 is necessarily different from a death that would have occurred at 4:12. But this is not a reason to reject as causes those events without which effects would have occurred later than they otherwise would have. More explicitly, it is metaphysical overkill to think that we had to accept fragile events in order to take advantage of differences in the time (and manner) in which the effect would or could have occurred to solve problems of late preemption. Theses about stringent identity conditions of events are not required in order to fashion a straightforward solution to the problem. What is required, however, is that we accept as part of the causal history not only those events
that change effects from not occurring to occurring, but also some events that change the
effect in a less extreme way.

In particular, to solve the cases of late preemption that I have discussed, we need
to accept as causes those events that cause the effect to happen earlier rather than later.
At least for the purposes of the present solution, we don’t have to accept that just any
event that changes an effect counts as a cause; we need only accept hasteners, since in the
cases of late preemption we are interested in (where the occurrence of the effect preempts
the slower causal process), the occurrence of the effect would have been delayed if the
preempting cause had not occurred. Lewis (1986) rejected hasteners and delayers as
causes: my suggestion is that it is time to reconsider this position.

What the present account allows us to do is to reject (or at least ignore) the
troublesome metaphysics of fragile events. Further, if we are only interested in solving
garden-variety late preemption, we need only accept events that hasten as causes, not
events that change the effect in any old way. This means that we accept far fewer events
as causes than a fragility theory would have us accept. Moreover, as I have argued above,
in most cases we accept hasteners as causes anyway. For those who feel less sanguine
about accepting hasteners as causes, perhaps the benefit of having a fairly simple solution
to the most outstanding problem with Lewis’s analysis will outweigh the cost.

Once we accept hasteners as causes, a solution along the same lines as the
deterministic analysis can be fashioned for the indeterministic case. We may now say that
\( e \) depends causally on \( c \) iff, if \( c \) were to occur, the chance of \( e \)’s occurring at time \( t \) would
be \( x \), and if \( c \) were not to occur, the chance of \( e \)’s occurring at or earlier than time \( t \) would
be \( y \), and \( x \) is much greater than \( y \). If this condition is met, we may say that \( e \)
probabilistically depends upon \( c \), and since we take the ancestral of the relation of
probabilistic causal dependence, \( c \) causes \( e \) iff there is a chain of probabilistic causal
dependencies running from \( c \) to \( e \).
These modifications allow the new analysis to circumvent part of Menzies’ (1989, 1996) argument that Lewis’s probabilistic analysis fails. Again, for cases of late preemption where the preempted process is slower than the preempting process—and Menzies (1996, 94-5) cites such a case as the most damning evidence against Lewis’s view—the new analysis gives the right answer. Take such a case, with preemipping cause $c$ and preempted cause $d$. If the preemiting cause $c$ were to occur, just as in fact it did, the chance of $e$’s occurring at time $t$ would be $x$, and if $c$ were not to occur, but $d$ were to occur just as in fact it did, the chance of $e$’s occurring at or earlier than time $t$ occur would be $y$ (and if $x$ is much greater than $y$ ), then $e$ will probabilistically depend on the preemiting cause. Not so for the preempted cause $d$. Whether or not the preempted cause $d$ occurs, the chance of the effect’s occurring at time $t$ is still $x$. The preempted cause makes no change to the chances of $e$’s occurring at or earlier than $t$, and thus is not counted as a cause of $e$ if $e$ occurs at $t$.

For example: imagine that Billy had a 50% chance of dying from McGraw’s drawing and shooting but a 90% chance of dying from Joe’s (Joe’s draw is slower, but his shot is more accurate.) Give Billy a nonzero but less than 1% chance of dying for some other reason (heart attack, whatever.) If McGraw’s acts occur, as in fact they did, Billy has a just over 50% chance of dying at 12:00:00, and if McGraw’s acts don’t occur, but Joe’s acts still do, then Billy has a nonzero but less than 1% chance of dying at (or earlier than) 12:00:00. (And his chance of dying later than that is irrelevant.) If Joe’s acts occur, Billy has a just over 50% chance of dying at 12:00:00, but if Joe’s acts don’t occur, Billy still has a just over 50% chance of dying at 12:00:00. Since Billy’s death at 12:00:00 does not probabilistically depend on Joe’s acts, Joe’s acts do not cause it.

5. Residual Problems.
My modification of the counterfactual analysis does not handle all of the kinds of late preemption that Lewis raised as problems for his account. In his (1986b) account, Lewis discussed three kinds of late preemption: (1) Cases of the sort discussed in detail in this paper, commonly found in the actual world, where the preempted causal process runs more slowly (or starts later but takes as much time as) the preempting cause. In all of these cases, the effect would have been delayed, had it been caused by the preempted cause. (2) Cases (not found in the actual world) where the preempting cause works (in part) by action at a distance, so that there is no intermediate event \(d\) along the main process that occurs after the causal process of the preempted cause is cut off. (3) Cases (not found in the actual world) where there are infinitely many preempted alternatives, so again there exists no intermediate event \(d\) along the main process that occurs after the causal processes of all the preempted causes are cut off. Cases of (2) and (3) are not cases where the effect would necessarily have been delayed, had it been caused by the preempted cause.

The focus of Lewis’s (1986b) discussion of late preemption was on cases of (1), as this sort of late preemption is common in our world. He sets aside all kinds of cases of (2) and (3), arguing that since these cases are farfetched our common sense opinions may go astray, so there is no urgent need here for an analysis that agrees with common sense.

‘I do not worry about either of these far-fetched cases [(2) and (3).] They both go against what we take to be the ways of this world; they violate the presuppositions of our habits of thought; it would be no surprise if our common-sense judgments about them therefore went astray—spoils to the victor! Common sense does judge them to be cases of causal preemption, in which what seems to a preempting cause is indeed a cause, despite the lack of either direct or stepwise dependence. But an analysis that disagrees may nevertheless be accepted. It would be better to agree with common sense about these cases, to be sure, but that is not an urgent goal.’ (Lewis 1986b, 203)

Cases of (1), on the other hand, are commonplace, and here our verdict must agree with common sense intuitions. The solution that I propose in this paper solves
cases of (1) but will not solve all cases of (2) and (3). In particular, it does not solve cases of (2) and (3) in which the competing causes would have been symmetrical overdeterminers, that is, where each of the causes (in the absence of the others) would have caused the effect at exactly the same time, since in both these cases the effect would not have been delayed if caused by a preempted cause.  

I do not find the failure of the emended analysis to apply to all cases of (2) and (3) particularly worrying, since, with Lewis (1986b), I think it is much more important to solve cases of (1). My reasons are slightly different from Lewis’s, however: I am prepared to disregard cases involving action at a distance and infinitely many preempted alternatives not because they are ‘spoils to the victor’, but because I set a much higher priority on finding an analysis of causation that is adequate for the actual world and worlds very close to our world than I do for finding a more general analysis. The first priority for the philosopher working on an analysis of causation, in my view, is to find an analysis that works well for the actual world, so as to have an analysis that is of use to scientific and social scientific theories. Once we have accomplished the (none too easy!) objective of discovering a useful and adequate theory of causation for this world, we can set our sights on developing an analysis that applies to causation in distant worlds as well. Moreover, it is not implausible to think that an analysis limited to the actual world might be useful to those who would develop a broader theory.

6. Conclusion.

22 The cases of (2) and (3) where the effect would not have been delayed are much more similar to the cases that Lewis calls cases of early preemption than to cases of (1), since the effect would have occurred at the same time no matter which event—preempting or preempted—caused it. In other words, like in all other cases of early preemption, the cases of (2) and (3) where the effect would not have been delayed are cases involving causes that would have been symmetrical overdeterminers. It is unclear to me why Lewis classes them as ‘late preemption’—they seem instead to be cases of early preemption which his analysis (including his (1986b) solution to cases of early preemption) fails to solve.
I have argued for a revision to Lewis’s (1986a, 1986b) counterfactual analysis of deterministic causation: \( e \) depends causally on \( c \) iff \( c \) occurs, \( e \) occurs, and if \( c \) had not occurred, then \( e \) would not have occurred at all, or would have occurred later than the time that it actually did occur. In the indeterministic case, revise the analysis to read: \( e \) depends causally on \( c \) iff, if \( c \) were to occur, the chance of \( e \)’s occurring at time \( t \) would be \( x \), and if \( c \) were not to occur, the chance of \( e \)’s occurring at or earlier than time \( t \) would be \( y \), and \( x \) is much greater than \( y \). Like Lewis, I take the ancestral of the relation of dependence (probabilistic or deterministic): \( c \) causes \( e \) iff there is a chain of dependencies (probabilistic or deterministic) running from \( c \) to \( e \). The analysis implies that we should accept hasteners as causes. I also think, although I have not argued extensively for the claim, that we should accept delayers as causes as well, making our causal analysis into: \( e \) depends causally on \( c \) iff \( c \) occurs, \( e \) occurs, and if \( c \) had not occurred, then \( e \) would not have occurred at the time that it actually did occur.\(^{23}\)

This analysis solves the problem of late preemption for cases that do not involve action at a distance (or infinitely many preempted alternatives, or other cases that might arise in distant worlds). If we accept transitivity, then we can accept Lewis’s (1986b, 200-1) two-step solution to early preemption, and so can solve all extant preemption problems for the deterministic version of the counterfactual analysis.\(^{24}\) Moreover, if we are willing to accept my emendation to the indeterministic analysis along with a version of Menzies’ (1989) solution to early preemption for the indeterministic analysis (the solution precludes causation by action at a distance), then we may be able to solve all extant preemption problems for the indeterministic version of the counterfactual analysis.

\(^{23}\) The probabilistic version would read: \( e \) depends causally on \( c \) iff, if \( c \) were to occur, the chance of \( e \)’s occurring at time \( t \) would be \( x \), and if \( c \) were not to occur, the chance of \( e \)’s occurring at time \( t \) would be \( y \), and \( x \) is much greater than \( y \).

\(^{24}\) For those who accept unrestricted transitivity, they have a general solution for cases of early preemption. For those who don’t, they can still accept Lewis’s solution to early preemption in a restricted fashion, since they should be happy to accept that cases of early preemption where transitivity does not hold are cases where the so-called preempting cause was not a cause after all. (They would need to accept some suitably restricted version of the ancestral of causal dependence as part of their analysis of causation.)
Although it would be nice to have an analysis that works well for worlds that are quite distant from our world, it is far more important to have an analysis of causation for this world. Although I do not think that this analysis solves all of the problems facing the counterfactual analysis, I believe that it makes significant headway. If we adopt the solution that I have suggested, then we have a fairly simple, intuitively clear analysis of causation that seems to work well for many of the cases of causation that we see in the actual world.
APPENDIX

Broader Analyses

The solution I advocate in the preceding paper solves the main preemption problem for a counterfactual analysis that is adequate for the actual world. Residual cases of preemption, cases that go against the ways of our world, remain. The most pressing of these cases are cases of late preemption that involve action at a distance. Although I am content to set the residual cases aside, I would still like to see them resolved in accordance with common sense intuitions. With this in mind, I will tentatively discuss some options for a broader analysis.

It may be that some suitably explicated descendent of the quasi-dependence analysis could be used to solve the remnant cases, since all of the residual cases of preemption involve preempted causes with interrupted causal chains (i.e., there are events missing from the process between the preempted cause and the effect that are needed for the effect to depend on the preempted cause). These are the sorts of cases that quasi-dependence handles quite well.

Another solution might be to accept as causes, in the spirit of accepting hasteners and delayers as causes, all events that affect the manner of an effect, that is, how the effect occurs. As with the more limited hasteners solution, we can set the complicated and controversial decisions about identity conditions of events to one side, leaving them to be decided upon independently of the analysis of causation, and take causation to be a matter of degree. Although such an account would have the virtue of being clear, easy to understand, and a nice extension of the analysis already presented, there are some sorts of preemption cases (where the preempted cause would cause the effect to occur in just the same manner and at just the same time as the preempting cause) that would remain unsolved.
Still another option might be to mix a different analysis in with the original counterfactual analysis. Ganeri, Noordhof and Ramachandran (1996, 1997) and Ramachandran (1997) have argued for versions of a counterfactual analysis of causation that can handle many kinds of preemption. Their accounts adopt the main insight of the quasi-dependence strategy, roughly as follows: in many cases of late preemption (and in all of the residual cases that I am concerned with here), the existence of an alternative (but incomplete) causal process between the preempted cause and the effect prevents the effect from depending counterfactually upon the preempted cause. [By incomplete, I mean (again, roughly) that some of the events in the causal process needed for the preempted cause to cause the effect are missing.]\textsuperscript{25} They then use this insight to define series of events as causal chains \textit{iff}, but for the occurrence of alternative incomplete causal processes, later events in the series would have been counterfactually dependent upon earlier events in the series. There are reasons to think that such an account will require considerable refinement. [For problems with Ganeri, Noordhof and Ramachandran (1996) see Byrne and Hall (1997.)] Since these accounts cannot handle the counterexamples to Lewis’s quasi-dependence analysis where no causal chain has missing events, we will also need to accept some version of the counterfactual analysis which includes hasteners and delayers as causes.

Because of the underdeveloped nature of the quasi-dependence strategy, the failure of the strategy that accepts events that change the manner of an effect as causes to solve all kinds of preemption, and the inelegance of a mixed account (the emended counterfactual analysis mixed with a version of the Ganeri, Noordhof and Ramachandran (1996) or Ramachandran (1997) accounts would transform Lewis’s elegant analysis into a complicated and unwieldy instrument), I do not think that the prospects for any of these extensions of the analysis are very good.

\textsuperscript{25} Ganeri, Noordhof and Ramachandran (1996), 221-2.
However, there is another option to consider. Lewis (1997) has sketched a new account for deterministic causation that seems to solve the problems with preemption as well as other problems: it takes up a suggestion by Hall (1997b), as well as parts of the arguments in the paper above that we can accept hasteners and delayers as causes and forget about the identity conditions for events.26

Lewis’s idea is that $c$ causes $e$ iff $c$ and $e$ are distinct events, and $c$ influences $e$ to a substantial extent. More explicitly, ‘whether [the effect] $e$ is present or absent, and, if present, when and how $e$ occurs depends on whether $c$ [the cause] is present or absent and, if present, when and how $c$ occurs.’27 So whether, when and how $e$ occurs depends, counterfactually, on whether, when and how $c$ occurs.

The new analysis works, and works well, for cases of preemption, since it captures our intuitions about causation, in particular the intuition that how and when an effect occurs depends upon how and when the cause occurs, since the cause is what governs the effect. What we mean by ‘how and when’ the cause occurs and ‘how and when’ the effect occurs can be more easily understood by thinking of causes and effects as able to occur in different ways. Instead of an event occurring when and how it actually did occur, things could have happened differently. Depending on how we choose to individuate between events, we might say that if things were different, alternatives to a cause $c$, events different from $c$, would have occurred, or we might say that versions of $c$,

26 There are reasons other than the far-fetched problems with preemption to motivate a new analysis: there are problems with transitivity (which I examine in my 1997 ‘The Failure of the Transitivity of Causation’), and problems involving ‘trumping’, which is a type of causation where one cause plays a larger role in causing the effect than another cause, but where both causal chains are complete (e.g., the major and the corporal both order the soldier to shoot. The soldier shoots. Whose ordering caused the shooting? The major’s or the corporal’s?) The original counterfactual analysis gives the same answer here as it would in cases of redundant causation: neither ordering caused it. The defender of the original analysis can respond (for trumping and perhaps also for standard cases of redundancy) that we should take the mereological sum of the two events that are doing the causing and call that the cause (for the effect would depend counterfactually on the event that is the mereological sum of the causes.) This response would not satisfy those who think that the event which influenced the effect more greatly should be counted as the only cause or as more of a cause, i.e., for those who thought the major’s ordering alone caused the soldier to shoot, or those who thought the major’s ordering was more of a cause than the corporal’s ordering. (For the worry about trumping I am indebted to Jonathan Schaffer.)

27 Lewis (1997).
events that are the same as $c$, would have occurred (but somewhat differently than $c$ actually occurred). We can make further distinctions: we may speak of close-in versions of $c$, where the version that would have occurred is very much like the event that actually occurred, and far-out versions of $c$, where the version is less like the event that actually occurred, but close enough to be a version not an alternative. We may also speak of close-in and far-out alternatives to $c$, where the events that would have occurred are not the same event as actually occurred, but the close in alternative is somewhat like the event that actually occurred, and the far-out alternative is very unlike the event that actually occurred. Likewise for versions of and alternatives to effects $e$. Lewis stipulates that we are to call an event absent only if neither it nor any version of it occurs. We may think of an absence as the farthest-out alternative to an event as it actually occurred. As Lewis puts it, an absence is an event ‘that is cleanly and completely excised from history.’ Absent events are omissions; they are counted as causes.

Deciding whether an event is an alternative to or a version of another event is a controversial matter and a task which can be avoided for the purposes of this analysis. In an effort to avoid confusion, I suggest we speak of the alterations of causes, by which I mean to refer to events that are versions of or alternatives to causes, but without specifying whether the event in question is a version or an alternative of the cause. Likewise, speak of alterations of effects. Assume that we can make rough distinctions between events that are close-in to an event and events that are far-out from an event, but do not specify, for example, whether the far-out alterations of an event are alternatives or merely distant versions. In this way, we may set the complicated and controversial decisions about identity conditions of events to one side, leaving them to be decided upon independently of the analysis of causation.

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28 Lewis minimizes the number of additional new causes that we will accept by arguing that a cause must influence its effect to a substantial extent. Causation is taken to be a matter of degree.
Now, each different alteration of a cause can influence the effect differently to give a somewhat different alteration of the effect. When we reject an event as a cause, it is because it lacks the requisite influence (as with preempted causes—they too can come in different alterations, but these alterations do not influence or change the effect.) For example, Quickdraw McGraw’s shot, in our late preemption cases, counts as a cause of Billy’s death because his shooting influenced Billy’s death in a way that Joe’s shot did not (e.g., if Quickdraw McGraw used bullets that exploded upon contact with the target, the demise of Billy at noon would have changed its character, but if Joe—and not Quickdraw—had used such bullets, the demise of Billy at noon would not have changed character.) The solution works similarly in cases of preemption where the time of the effect is not hastened by the success of the preemting cause. Now, it is a controversial matter how to individuate between events; but however this decision is made, the new analysis will give the right answer in virtue of that decision.

There are several advantages to Lewis’s account; I will discuss a few of them briefly (and leave much unsaid). First, as mentioned above, the analysis gives the right answer for the cases of preemption, including those involving action at a distance, allowing us to solve the major problems for the counterfactual analysis in one fell swoop.\(^{29,30}\) Second, the clause ‘to a substantial extent’ limits the number of additional causes that we have to accept, and further, distinguishes between degrees of causation. A cause that barely influences an effect doesn’t count as very much of a cause, whereas a cause that significantly influences an effect’s occurrence, time and manner counts as much more of a cause.\(^{31}\) Finally, the theory does not require that decisions be made about the metaphysics of events. As with the more limited hasteners solution, we can set the

\(^{29}\) It also gives excellent results when applied to problems involving the transitivity of causation. I discuss this in detail in my ‘The Failure of the Transitivity of Causation’.

\(^{30}\) This solution allows Lewis to drop his previous solution to early preemption that relied on intermediates and transitivity.

\(^{31}\) I suspect that even if we accept every event that changes how or when an effect occurs, we would not have to accept as many new causes as we would have if we’d accepted fragility. However to show this I’d need to do some arguing and showing that I can’t do here.
complicated and controversial decisions about identity conditions of events to one side, leaving them to be decided upon independently of the analysis of causation.

If we accept this kind of counterfactual analysis of causation, we have a broad analysis that can handle action at a distance and other exotic cases, solves many of the outstanding problems for the account, and maintains much of the elegance, clarity and intuitive plausibility of Lewis’s original analysis.  

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32I am indebted to Kieran Healy and especially to David Lewis for helpful comments, suggestions and discussion. I am also grateful to Alex Byrne, Jonardon Ganeri, Ned Hall, Paul Noordhof, and Murali Ramachandran for permitting me to read and cite their forthcoming manuscripts.
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Causation has long been thought to involve events: it is natural to say that particulars that happen in the world cause other particulars to happen in the world. Causes and effects can be prolonged, sudden or violent. They can be observable, and they occur, begin, end, and are located in time and space. I take the thesis that events are the causal relata as a substantive thesis about events—not as the thesis that whatever we decide the causal relata to be, we will call those relata ‘events’.  

Recent literature seems to indicate that theories of event causation have become somewhat embattled. Problems developing a plausible theory of the individuation of events, together with counterexamples which show that the more plausible attempts we do have cannot handle preemptive causation or support transitivity have driven many to reject event causation in favor of some variety of fact causation, or adopt an eliminativist or nonreductionist view. I argue that the analyses of event causation put forward by (among others) Donald Davidson, Jaegwon Kim and David Lewis are unacceptable both because they rely on unacceptable characterizations of events and because they have problems with transitivity. After I show that extant accounts are unacceptable, I’ll argue that a new conception of the role of events in the causal relata can resolve the problems with event causation and propose a new reductive causal analysis. The new analysis can

33 Unlike facts, which are often taken to be some sort of truth (true propositions or true statements): facts can be asserted or denied, but they do not correspond to the particulars involved in causation.

provide a sorely needed support structure for theories of property causation that have been suggested (but not rigorously developed) in the mental causation literature.

I. Problems with Events

The two versions of analyses of causation that receive the most attention, regularity and counterfactual, have traditionally included events in the class of causal relata, and the majority have held that events are the only causal relata. Such analyses require an acceptable theory of eventhood in order to have an acceptable (reductive) analysis of causation. Roughly, versions of regularity or covering-law analyses state that an event \( c \) causes an event \( e \) iff the occurrence of \( c \), together with the right regularities and laws, is sufficient for the occurrence of \( e \). Counterfactual analyses hold that, for any two actual, distinct events \( c \) and \( e \), \( e \) depends causally on \( c \) iff \( e \) depends counterfactually on \( c \), i.e., had \( c \) not occurred then \( e \) would not have occurred. A premise about transitivity is often added: \( c \) is a cause of \( e \) iff there is a chain of causal dependencies running from \( c \) to \( e \).

In order to provide an acceptable underpinning for analyses of causation that include events as causal relata, several characterizations of the identity conditions for events have been put forward. Characterizations of events based on different theories of identity condition can be located along a continuum from coarse grained to fine grained: roughly, the more fine grained a theory makes event identity, the more events the theory implies. Holding that events are fragile is a way to individuate events in a fine grained way with respect to modal contexts.\(^{35}\) To hold that an event is fragile is to hold that, had the event occurred in a different way, the event would be numerically different from the event that actually occurred.\(^{36}\)

\(^{35}\)These are my definitions: other philosophers may use 'fragile' and 'fine grained' slightly differently, or even interchangeably. I think the differences between the two conceptions are often not made clear.

\(^{36}\)Lawrence Lombard holds that events are moderately fine grained in his Events: A Metaphysical Study (Routledge and Kegan Paul: London, 1986): events are fragile with respect to time, and so could not have
But extant theories of fine grained events, including views that events are fragile, impose implausibly stringent identity conditions. Under a fragility view, one must hold that when I pick up my cup of coffee, had I picked up the coffee a millisecond later, had the coffee swirled in a slightly different fashion, or had it been a fraction of a degree hotter, the event of my picking up the coffee cup would—necessarily—have been a different event. Moreover, the view that events are fragile implies that many more events are causes than we might think: if an explosion on the sun makes the summer day on which I drink my coffee a fraction of a degree hotter, thus keeping my coffee ever so slightly warmer than it would have been had the explosion not occurred, that explosion counts as a cause of my drinking my coffee.\(^37\)

Jaegwon Kim has argued for a fine grained view according to which actual events are identified by their constitutive triples, comprised of an individual, a property exemplified by that individual, and the time when the property is exemplified. Although an event may exemplify many properties, it is the constitutive triple which, in a sense, defines the event.\(^38\) For Kim, we have two numerically different events when they differ in their constitutive triples: i.e., when they differ in their constitutive individuals, properties or times.

Unfortunately, Kim’s view has extremely counterintuitive consequences, since entities are multiplied to a huge degree—for every different constitutive property we get a different event.\(^39\) When C. Louise sneezes loudly, according to Kim, at least two events occurred at any time other than the time they actually did.

\(^{37}\)The explosion counts as a cause of my drinking my coffee because the event of drinking my coffee that actually occurred, my drinking-coffee-at-a-particular-temperature, would not have occurred without the explosion. (Or the explosion was part of a sufficient condition for my drinking-coffee-at-a-particular-temperature and so in this sense counts as a cause.) A different drinking of coffee would have taken place without the explosion, presumably one that involved drinking slightly cooler coffee.


\(^{39}\)The same goes for constitutive individuals—Kim even holds that individuals are essential to events—but the point made about constitutive properties will suffice to make the counterintuitive consequences of Kim’s view clear. It’s worth noting that, despite popular belief, Kim does not hold that times are essential
occur in that region of spacetime: C. Louise’s sneezing and C. Louise’s sneezing loudly. Moreover, when she sneezes, she sneezes in the kitchen, on a summer morning while dislodging a flea (she’s a cat): so we also have the simultaneously occurring events of a sneezing on a summer morning, a sneezing in the kitchen, and a sneezing while dislodging a flea. We can continue our modification of the constitutive property indefinitely—so we have an infinite number of events occurring in the region of C. Louise’s sneezing. For Kim, these events are all different but not necessarily distinct: in some sense (although he does not develop the notion), he thinks the many events that occur when C. Louise sneezes are all ‘included’ in her sneezing. The implausibility of this view prevents many, including myself, from accepting it.

David Lewis has argued that events have both strong and weak essences, so that when an event such as C. Louise’s sneezing loudly occurs, a second event (with a weaker essence) also occurs—C. Louise’s sneezing. Adopting Lewis’s strategy presents us with the conclusion that there are many, perhaps infinitely, more events—stronger (more fine grained) and weaker (less fine grained)—than we might originally suspect. For Lewis, when an event such as C. Louise’s sneezing loudly occurs, the strong version of the event (C. Louise’s sneezing loudly) is not distinct from the weak version (C. Louise’s sneezing), but not identical: the stronger event implies the weaker. The problem with Lewis’s view about strong and weak events is (much as with Kimian events) we must count events many times over: once for each essentialist version. For Kim, differences between events are based upon differences in the constitutive properties of the events; for Lewis, the differences are based upon differences in the strengths of essences of the events. Multiplying events in either the Lewisian or the Kimian way is a serious violation of

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40 Kim, ‘Events as Property Exemplifications’: 45-6 (page numbers refer to *Supervenience and Mind*).
41 Kim’s view also implies that there are many more causes and effects than we thought there were: C. Louise’s sneeze causes her to jump, while at the same time C. Louise’s sneeze at 9 a.m. causes her to jump at one second past 9 a.m., etc.
common sense views about events, is not parsimonious, and as I shall argue below, not necessary.

Many philosophers have shied away from the counterintuitive claims defended by the champions of fragile, Kimian or Lewisian events. Donald Davidson has tried to individuate events by their causes and effects: events are identical iff they have all the same causes and effects. Davidson, who has now repudiated the view that events are individuated by their causes and effects, recently adopted the view that events are individuated by the regions of spacetime that they occupy. This view has the happy consequence that C. Louise’s sneezing is the same event as the event of her sneezing loudly, and the event of her sneezing in the kitchen, etc. Such a view takes events to be coarse grained.

But these characterizations of events also have problems, some of them serious. Initially, individuating events by their causes and effects sounds plausible, but such a strategy requires a prior analysis of causation in order to avoid circularity or recourse to a nonreductive account of causation. Davidson’s coarse grained theory, where events are individuated by regions of spacetime, seems moderately plausible until we consider the consequences: as Davidson himself points out, if we had a metal sphere that as it rotated also heated up, we would have to identify the event of the rotating of the sphere with the event of the heating up of the sphere—they are the same event because they occur in the same spatiotemporal region. This result is also counterintuitive.

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It is not clear to me if Davidson’s new view is a fragile view of events or not. Davidson (p. 176) accepts Quine’s (p. 168) claim that we can individuate events precisely using exact specifications of spacetime regions, but he could still use this to identify events in the actual world while accepting the modal claim that the very same event could have occurred in a different region of spacetime. Davidson does not address the modal claim.
In response to these sorts of worries, I believe that many fans of events have avoided adopting a particular theory of event individuation. Instead, they resort to holding a rough theory of identity conditions for events that bears some affinities to the Davidson view that events, for the most part, are coarse grained but may have some essential properties. Often, as an extension of the general view that events are coarse grained, they hold the (modal) view that many events are robust, i.e., they are not fragile. Such views seem to fit best with our commonsensical intuitions about events, at least for many everyday cases. These fans of events may also be also waiting for an adequate theory of essentialism to help them distinguish some events by their so-called essential properties.

But however commonsensical such a view might be, it is woefully underdeveloped. The standards for coarse graining are by no means clear, and determining which properties of events are essential is even more murky. This might not bother fans of events who are not interested in a reductive analysis of event causation, but for those who are, their views will not be tenable until their theory of events is adequately developed.

Myself, I think that the attempt to define fixed individuation conditions for events is misguided. Whether or not we think one event is the same as another that actually (or might have) occurred seems to depend to some extent on our interests and inclinations. Rather than hold that identity conditions for events are context independent, I think that we implicitly take events to have context dependent identity conditions.

Such a suggestion could be fleshed out this way: identity conditions for events are context dependent in the sense that they are the values of a function that takes as arguments whatever level of graininess we choose to adopt. Adopting a very fine grained level of individuation would mean that events had strict individuation conditions; at a more coarse grained level the individuation would be somewhat looser. Satisfaction

44Although many philosophers who hold that identity conditions are coarse grained also hold that events are robust, one could hold that the correct theory of identity conditions for actual events should be a fine grained theory, but that the correct theory of events in modal contexts is a robust theory. One could also hold the complimentary position: actual events are coarse grained but fragile.
conditions for the identity relation would be dependent upon which level we decided to adopt, which in turn would depend on the context of our interests, inclinations, and perhaps the sort of explanation we are seeking. What is ‘out there in the world’ are individuals, things, regions of spacetime, etc., and these individuals, things and spacetime regions exist objectively. But how we carve these bits of the world up into events, I claim, seems to be a context dependent matter: what counts as an event depends on our interests at the time. What is not context dependent is the existence of the material world.

So whether or not two events are identical or different can depend upon the level of graininess we adopt: in a context where we are interested in how John spoke or what John said, it may be wrong to say that the event of John’s speaking loudly is the same event as John’s speaking, but in a context where we are interested in whether John spoke, it may be right to say that the event of John’s speaking loudly is the same event as John’s speaking. Our decision whether or not the relation between two particulars is identity depends upon the level of detail we are interested in, i.e., whether an event merely occurred or whether the event occurred in a particular way. This leaves room for the view that our decisions about fragility and robustness can also be context dependent.

But if something can be a cause in one context yet not be a cause in another, then we seem to have an unacceptable pragmatic dimension to causation. It could be true, under such an account, that the event of John’s speaking caused Alex to look at him in a context where we are interested in how John spoke or what John said (if in this context the event of John's speaking is the same as the event of John's speaking loudly), but false that the event of John’s speaking caused Alex to look at him in a context where we are interested in whether John spoke (because in this context the event of John's speaking is not the same as the event of John's speaking loudly).

45 Note that I am not addressing discussions of event types.
Since our reductive analysis of event causation, thus far, has been built upon our characterization of events, individuating events based on the context in which they occur would seem to mean that our view of causation would be correspondingly context dependent. In other words, the pragmatic dimension of our definition of eventhood could mean that it was context dependent whether or not some particular event caused or did not cause another event. For those who think that the causal relation is an intrinsic relation, or even for those who are prepared to bring in laws or appropriate regularities to evaluate the relation, the notion that causation is context dependent in this way goes too far. But I think we can respect the context dependent nature of events while holding that the intrinsic nature of the causal relation is objective, and that some central problems with reductive analyses of causation can be cleared up once we see how to understand the role that events play with respect to causation. However, before I can proceed with my positive theory, I need to show how the problems with individuation are tied to some of the problems event causation has with redundant causation and transitivity.

II. Preemption and Transitivity

We have seen that theories of event individuation have serious and persistent problems defining an acceptable criterion for individuation. These problems are connected to other serious problems for event causation: cases involving late preemption and the transitivity of the causal relation. The role of a theory of event individuation in a reductive analysis of causation is particularly clear in cases of redundant causation that involve late preemption: cases where potential causes $c$ and $b$ both occur, and each in the absence of the other is sufficient to cause the effect $e$, yet it is intuitively clear that $c$ is a cause of $e$ and $b$ is not. In these cases, the causal chain begun by $c$ causes the effect $e$ before the causal chain begun by $b$ could have. The alternative chain is prevented from causing the effect by the effect’s occurring before the alternative chain can cause it.
In the final seconds of the game, Ted and Jeff make a beeline for the ball as it sits on the field. Both aim and begin to kick: Ted’s foot hits the ball a moment before Jeff’s does, and the kick sends the ball soaring between the goalposts. Clearly, Ted makes the kick and thus makes the goal. But if Ted hadn’t kicked the ball, Jeff would have, and moreover he would have kicked with just the same force and direction. So if Ted hadn’t made the goal, Jeff would have. Ted’s aim and kick preempts Jeff’s aim and kick, and the occurrence of the effect—the ball’s being kicked—a moment before Jeff’s foot reaches it prevents Jeff from causing the goal.

Regularity and counterfactual analyses have serious trouble with these sorts of examples. Cases of late preemption seem to be common in the actual world, and the right answer is intuitively clear. But a regularity analysis wrongly tells us that both Ted’s act and Jeff’s act count as causes of the goal, since each act is sufficient, given the circumstances and the right regularities or laws, for the occurrence of the effect. And a counterfactual analysis wrongly tells us that neither Ted’s act nor Jeff’s act count as causes of the goal, since if Ted’s act had not occurred, the goal would have occurred anyway (caused by Jeff’s act) and if Jeff’s act had not occurred, the goal would have occurred anyway (caused by Ted’s act, as it actually was).

The problem is one for advocates of robust events: fans of events who think that an event such as a goal, a death or an eruption would be the very same event if it had occurred, say, a fraction of a nanosecond earlier or later. Those who adopt fragility views where all events have their times essentially can resolve the problem. Under this view of events, since the effect in cases of late preemption, if caused by the preempted cause (Jeff’s act in our example), would occur later than it actually did occur, the effect would be numerically different if caused by the preempted rather than the preempting cause. So only Ted’s act is sufficient for the goal that actually occurred, as opposed to the goal that would have been caused a fraction of a section later by Jeff; and that actual goal depends counterfactually only on Ted’s act. This result bolsters the otherwise minimal support for
(temporal) fragility theories of event individuation. But for many, such bolstering is insufficient. The solution seems *ad hoc*, and not worth the intuitive cost of accepting such implausible identity conditions for events.

But there are even more pressing problems than preemption: problems involving the transitivity of the causal relation. Again we will see that each of the different theories of context independent identity conditions for events seem to create problems for an analysis of causation. Most analyses of causation hold that the causal relation is transitive: if $c$ causes $d$, and $d$ causes $e$, then $c$ causes $e$. Indeed, the premise seems to be one of the more uncontroversial assumptions we can make about causation. But for those who believe causation involves events, the transitivity of causation seems to be in jeopardy. Advocates of the view that events should be fragile or fine grained in some other way must accept many cases where, if transitivity applies, under their view event $c$ causes event $e$, but intuitively we think $c$ is not a cause of $e$. Conversely, advocates of more coarse grained events must confront cases where, intuitively, $c$ should count as a cause of $e$, yet their theory implies that $c$ is not a cause of $e$.

Consider first the problem for advocates of fragile events: there are cases where most would think that transitivity should not apply, but where fragility theorists must claim it does. While skiing, Suzy falls and breaks her right wrist. Because her right wrist is broken, she has to write her philosophy paper with her left hand (she is right-handed, and can’t write it any other way, e.g., with her right foot.) She writes the paper, and it is subsequently published.  

Michael McDermott, ‘Redundant Causation’, *The British Journal for the Philosophy of Science* 46:4 (1995): 523-44 uses a similar example to argue that Lewis’s counterfactual analysis together with the view (which he attributes to Lewis) that events are coarse grained leads to transitivity problems. I am impressed by his excellent example. However, I think his argument (which takes a different approach to the problem) as presented is defeasible, since if Lewis had the view that events are coarse grained he could adopt the strategy I discuss below, and claim the writing of the paper is the same event no matter how it is written. (Of course, the additional arguments I present show that even this strategy won’t work.) Lewis actually holds the view that events are essentially specified rather than the view that all events are coarse grained, a view that has serious difficulties with transitivity, as I show in the main text. Hausman and Ehring (chapter 3) present similar examples against Davidson’s coarse grained events as combined with a regularity analysis—although, again, these examples are defeasible unless bolstered by the arguments presented here.
If these events are fragile, then her skiing accident is among the causes of her writing her paper with her left hand, and her writing of the paper is a cause of it being published. For fragility theorists, writing the paper with her left hand is necessarily a different event than writing the paper in some other way. So the skiing accident is a cause of the event that actually occurred: the event $e$ of the paper’s-being-written-with-the-left-hand, since the skiing accident is part of a sufficient condition for $e$, and if the skiing accident had not occurred, $e$ would not have occurred. Given that the skiing accident occurred, if the writing of the paper occurs at all, it occurs with the left hand, since after the accident she can’t write it any other way. This means that, as the story was told, if the event of the writing of the paper with the left hand had not occurred, then the publication would not have occurred. Under a fragility view, counterfactual theories would hold that the writing of the paper with the left hand is a cause of the publication of the paper. And since the writing of the paper with the left hand is an event that is part of a sufficient condition for the publication of the paper, advocates of regularity theories must agree. If transitivity holds, fragility theorists, whether advocates of regularity or counterfactual analyses, are committed to the view that Suzy’s skiing accident is a cause of her paper’s being published.

The implausibility of such conclusions increases with every link in the causal chain, and confronts advocates of fragility with a multitude of counterintuitive cases. Perhaps the fragile event theorist can provide some sort of an account of the causal relation that can make two-step cases such as the sun’s explosion causing my drinking of my coffee seem less counterintuitive. But the implausibility of holding, e.g., that the skiing accident is among the causes of Suzy publishing her paper, and the ease with which such multi-step examples can be constructed, shows us that explaining two-step cases is not enough, and provides a strong reason to reject fragile events.

The companion problems with fragile and fine grained events seem to have gone unnoticed.
Kim’s theory of constitutive triples and Lewis’s theory of weak and strong events also fall victim to this problem. For Kim, who holds a version of a regularity analysis of causation, when Suzy writes her paper with her left hand, multiple events occur: Suzy’s writing of her paper, Suzy’s writing of her paper with her left hand, etc. All of the occurrent events that ‘include’ Suzy’s writing of her paper with her left hand (such as Suzy’s writing her paper with her left hand by typing on a keyboard, Suzy’s writing her paper with her left hand by pecking with one finger on a keyboard, etc., assuming that this was how Suzy actually wrote her paper), are effects of the accident. And all of these effects are among the causes of the publication of the paper, for they all ‘include’ Suzy’s writing of the paper, and so they are sufficient under the laws to cause the publication of the paper.\footnote{Kim, who I take to hold a version of the regularity analysis, can’t try to escape this conclusion by using a notion of minimal sufficiency that would eliminate all but one of the events that involve Suzy’s writing of her paper as part of the constitutive property, since eliminating the more (less) inclusive events (e.g., one with the constitutive property of Suzy’s writing her paper with her left hand) automatically eliminates the less (more) inclusive ones (e.g. the one with the constitutive property of Suzy’s writing her paper) as well. This is because these events are not distinct, independently occurring events—removing one event removes material that is necessary for the other events to exist. Kim could try to build in a counterfactual version of minimal sufficiency, but since he explicitly rejects a number of essentialist claims (‘Events as Property Exemplifications’, 47-9) it is unclear what such an account would look like.}

Lewis’s view commits him to a different but similar result. For Lewis, when Suzy writes her paper with her left hand (using a computer, typing on a keyboard, etc.) both the event of Suzy’s writing her paper that is essentially a writing of her paper and the event of Suzy’s writing her paper that is accidentally a writing of her paper occur, along with the events of Suzy’s writing her paper with her left hand that is essentially a writing of her paper essentially with her left hand, and Suzy’s writing her paper with her left hand that is essentially a writing of her paper but only accidentally with her left hand, etc. The skiing accident is among the causes of the event of Suzy’s writing her paper that is essentially a writing of her paper and is essentially with her left hand, as well as a cause of all the other events that occurred essentially with the left hand (i.e., Suzy’s writing of the paper that is essentially a writing of the paper and essentially with the left hand, but
only accidentally a writing using a keyboard, etc.) And (holding that the appropriate closest possible world in which we evaluate whether or not the publication of the paper occurs is a world in which no event that is essentially Suzy’s writing of her paper occurs) each of the events that involve Suzy’s writing of her paper that is essentially a writing of her paper, which includes many events caused by the accident, are causes of the publication of the paper. So Lewis must also accept the conclusion that the skiing accident is a cause of the publication.

The problems with transitivity for the Kimian and Lewisian views highlight a side effect of their multiplication of entities: many instances of redundant causation where we wouldn’t normally expect it. For Kim, each event that includes Suzy’s writing of her paper causes the event that has as its constitutive property the publication of the paper. (Of course, there are many other publications of the paper caused at the same time as the relatively coarse grained event we are focusing upon, but we’ll ignore those events for simplicity’s sake.) For Lewis, each event that involves Suzy’s writing of her paper essentially causes a version of a publication of her paper that is essentially a publication. Such a result adds ballast to the view that these accounts of events are unacceptable.

Defenders of coarse grained events seem to have a natural solution to cases like the skiing accident causing the publication: they can break the causal chain by claiming that the writing of the paper with the left hand is not causally dependent on the skiing accident. They can do this if they maintain that the event of Suzy’s writing the paper with her left hand is the same event as her writing the paper. Those who hold a version of the regularity analysis could argue that the skiing accident is not a part of a sufficient condition for the writing of the paper, so is not a cause of it. Counterfactual theorists could adopt a robust view of events and argue that if the skiing accident had not occurred, the writing of the paper would still have occurred, so the skiing accident is not

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48 Interestingly, in Kim forthcoming, as part of a discussion about mental causation, Kim rejects the possibility of a similar sort of redundancy as radically counterintuitive.
a cause of it. Since the skiing accident was not a cause of Suzy’s writing the paper, it was not a cause of her publishing the paper, and the problem with transitivity would not arise.

Something about this seems right—it seems to capture part of what we mean when we deny that the accident was a cause of the publication of the paper. But it can’t be quite right, because the response can be used to generate problems. For suppose there was more to tell about the case of the skiing accident. Suzy’s left hand, unused to writing, begins to cramp severely after finishing the paper. She visits a doctor, and spends large amounts of money on prescription drugs in order to dull the pain. It seems right to say that the writing of the paper with Suzy’s left hand is among the causes of the pain in her left hand, and her visit to the doctor and expenditure of large amounts of money on prescription drugs is caused by the pain. Moreover, it seems right to say that the skiing accident to Suzy’s right hand is among the causes of her writing the paper with her left hand and so a cause of the pain in her left hand. Transitivity should hold.

But if we are coarse grained theorists, we have already decided in order to resolve earlier problems that the event of Suzy’s writing the paper with her right hand is the same event as her writing the paper with her left hand, and that the skiing accident did not cause the event of the writing of the paper, however it was written. But if the skiing accident did not cause the event of the writing of the paper in the context where we say what caused the publication, then neither did it cause the event of the writing of the paper in the context where we say what caused the costly prescription. Transitivity can’t hold here, because the link in the causal chain between the skiing accident and the writing of the paper has already been—by stipulation—broken. But we do want to say that the skiing accident was a cause of the cramping hand and the costly prescription, and moreover, we want to say this because we think that the accident, by causing the writing of the paper to occur in a particular way—it was a writing with the left hand—was a cause of the subsequent cramping of the left hand (and thus of the costly prescription).
So we shouldn’t try to preserve the transitivity of causation by claiming that the link between the skiing accident and the writing of the paper does not obtain in order to deny that the skiing accident is a cause of the publication. Further, common sense would have it that the writing of the paper (however it was written) is a cause of the publication of the paper, so I don’t think it’s a good idea for the coarse grained theorist to try to deny the second link in the chain. I suspect that the problem is perfectly general: for any theory of events that individuates coarsely (i.e., for theories for which the very same event could have occurred in a slightly different manner or at a different time), we can design transitivity puzzles like the one above.

There is one more move that the coarse grained theorist might try: following Davidson, he might try to claim that the claim that 'The accident caused the publication of the paper' is true, but not causally explanatory. 49 In other words, the claim would be that, strictly speaking, the accident really did cause the publication even though our singular causal statement doesn't mention any causally relevant properties of the accident as part of the description it gives of the cause (the accident). This would allow the coarse grained theorist to accept the first link of the causal chain (as well as subsequent links.)

But this response is inadequate, for the skeptic can return with the point that no matter how the accident is described, the event of the accident has no properties that are causally relevant to the effect (the publication). For the coarse grained theorist's response to work, the event that counts as the cause has to have some properties under some description that are causally relevant to the effect, even if these are unobvious (e.g., such as the properties of my birth that are causally relevant to my writing this paper.)

This leaves the coarse grained theorist in much the same predicament as the fine grained theorist: both must accept counterexamples to the transitivity of causation.

Distinguishing between events coarsely respects many of our causal judgments and

commonsense views about individuation. But by holding that some changes (no matter how minor) in events do not result in a different event, we lose needed flexibility when just such a minor change affects the causal story that we want to tell. Fine grained events, on the other hand, violate our intuitions about individuation, and build every detail of the event into the causal story that we tell. Such precise specification will give us many cases of spurious causation.

For any context independent theory of event identity that does a moderately good job of respecting our intuitions about individuation and ontology, the problem with transitivity will arise. The trouble is the worst for coarse grained theories of events—the theories that do the best job of constructing plausible event identity conditions. If we fix the level of the individuation of events at a particular level of coarseness, we will be able to find cases like that of the accident causing the need for painkillers but not causing the publication of the paper, where in one causal process transitivity seems to hold, but in the other it does not. Fixing the level of individuation at the finest possible level eliminates this problem, but at the cost of having many spurious cases of causation and of accepting implausible identity conditions for events. The problems with transitivity bring out the difficulties of individuating events in a fixed way—fixing on some level of fine or coarse grainedness as the objectively correct level for individuation—and combining this view with an analysis of causation, for when we evaluate cases of causation, we need to be able to individuate differently depending upon which effect we are evaluating: sometimes we need an event to be fine grained, at other times we want it to be coarse grained.

Perhaps we can devise a solution by setting up a theory of variable identity conditions for events; earlier, I suggested that some such theory would give us what I take to be the right characterization of eventhood. But as we have seen, such a view, if combined straightforwardly with an analysis of the causal relation that took events as the causal relata, would give us a variable specification of the causal relation: whether or not \( c \) caused \( e \) would depend upon the level of individuation adopted at the time. Choosing
between preserving the transitivity of the causal relation versus preserving the context independence of the causal relation is a dilemma serious enough to make one reconsider the possibility that causation does not involve events after all.

III. Aspects

But I think there is another way to preserve our intuitions about the context dependence of events (or the event individuation theory of your choice), the context independence of causation, and the idea that causation involves events. The way to preserve these three ideas involves redefining what we take to be the causal relata: instead of events *simpliciter* as the causal relata, we should recognize that logical parts of events are the causal relata.  

To understand what I mean by ‘logical part’, consider an example. People, like events, are particulars, and they have properties. A person can have the property of being a wife, of being a mother, and being a grandmother, all at the same time. She might need to act *qua* wife in one situation, and *qua* mother in another. Or consider a more striking example: Koko the tailor has, for various reasons, been promoted to Lord High Executioner of Titipu. Most of the other functionaries of Titipu object to a common tailor assuming the highest office of the land, and resign in protest—except Pooh-Bah, who then assumes all of the offices left vacant by the others. In order to avoid potential conflicts of interest, Pooh-Bah has lots of logical parts that he has to keep separate: as First Lord of the Treasury, he could propose a special vote to cover a large expenditure, but as the Leader of the Opposition, it would be his duty to resist such a vote. Or as Paymaster-General, he could cook the accounts so that, as Lord High Auditor, he should never

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50 In what follows, I am indebted to David Lewis’s ‘Events’, *Philosophical Papers*, vol. 2 (Oxford: New York, 1986): 241-69, and to several illuminating discussions with him about influence and causation.
discover the fraud. However, as Archbishop, it would be his duty to denounce his dishonesty and give himself into his own custody as First Commissioner of Police.\footnote{The example is taken from \textit{The Mikado}.}

As we can see, Pooh-Bah has many logical parts: Pooh-Bah \textit{qua} First Lord of the Treasury, Pooh-Bah \textit{qua} Leader of the Opposition, Pooh-Bah \textit{qua} Lord High Auditor, etc. Now, Pooh-Bah has some special problems that most of us don’t face. Nevertheless, just as Pooh-Bah has logical parts, so do other particulars: normal people, and, I suggest, events.

I will use ‘aspect’ to refer to a logical part of an event: an aspect is a pair of an event and a property of that event.\footnote{I will assume the singular case, since several properties can be taken as a conjunction.} An aspect occurs if an event occurs and if the event has the property it is being paired with: it is a particular’s (a particular event) having a property.\footnote{D.M. Armstrong, in \textit{A World of States of Affairs} (Cambridge, 1997) defines a state of affairs as a particular’s having a property: aspects are very much like Armstrong’s states of affairs, i.e., a particular’s having a property. (Armstrong, rather confusingly, sometimes calls his states of affairs ‘facts’ and ‘events’.) There is an important difference between Armstrong’s states of affairs and my aspects, however: for Armstrong, if a state of affairs doesn’t occur, then it doesn’t exist at all. But for me, if an aspect (a pairing of an event \(e\) and a property \(P\)) doesn’t occur, there can still be a pair that exists, it’s just that \(e\) lacks \(P\) (\(e\) might have \(Q\) instead). The similarity between my aspects and Armstrong’s states of affairs should not lead one to think there is a corresponding similarity between my and Armstrong’s views with regard to other metaphysical issues: in particular, I remain uncommitted to universals.} Whatever events are, they have properties, and so, it seems to me, they can have logical parts. An eruption can be an eruption \textit{qua} occurring at 10:45 am, and it can be an eruption \textit{qua} spewing out large amounts of lava. Logical parts of an event can be fine grained in the sense that the logical part involves only a single property of the event, or coarse grained, such that the logical part is the event \textit{qua} a complex of properties.

I leave the question open whether or not two distinct events can have the same property; if so, an aspect of an event may consist of an event’s having a repeatable property.\footnote{Thus, this is not the view that tropes are causal relata, though if one believed in tropes, my view might be translatable into this view. Donald C. Williams, in ‘On the Elements of Being’, \textit{The Review of Metaphysics} vol. VII, 3-192, and Keith Campbell, in \textit{Abstract Particulars} (Basil Blackwell: Oxford, 1990), suggest that tropes should be the causal relata. Neither Williams nor Campbell develops a causal analysis to go with the claim that tropes are the relata. Douglas Ehring, in \textit{Causation and Persistence}, presents a well-developed argument in favor of what}
events to serve as causal relata needs further investigation. For the purpose of using a theory of aspects as causal relata as part of a theory of causation, I leave the controversial question of how we define events aside by stipulating that the aspects don’t have to be part of the structure we take to be the event. Just as Pooh-Bah qua Lord High Auditor isn’t part of the structure that is Pooh-Bah (and unlike the way Pooh-Bah’s left leg is part of the structure that is Pooh-Bah), the aspects of the events that are the causal relata need not be the structure we take to define those events.

To illustrate how I mean to use logical parts of events to resolve the problems of event causation, consider an analogous puzzle involving spatiotemporal parts of events.

[FIG 1.]
Figure 1 presents a neuron diagram (the firing neurons are represented by the filled-in circles, and the stimulatory signals by the arrows.) Neuron $a$ fires, stimulating neuron $b$ to fire. Neuron $d$ fires, stimulating neuron $e$ to fire. Neurons $b$ and $e$ are side by side, and they fire at exactly the same time; $b$ stimulates $c$ to fire, and $e$ stimulates $f$ to fire. Call the event of $b$ and $e$ firing together ’$Q’$. $Q$ is a perfectly good event; identifiable by its spacetime boundaries or by its constituents (or by whatever method of identification you prefer.) As the story was told, $a$'s firing is among the causes of $Q$'s occurrence, and $Q$’s occurrence is among the causes of $f$’s firing. If causation is transitive, then shouldn't we say that $a$’s firing is a cause of $f$’s firing?

he calls ‘persisting tropes’ as the causal relata for an analysis of singular causation. Although we share a skepticism about the adequacy of Davidsonian accounts (especially because of problems with transitivity), Ehring’s analysis is quite different from mine. His view does not preserve transitivity because his tropes are more like events than logical parts of events: he accepts that singular causation is not transitive. (pp. 138-9)
Obviously, we should not. And the way to solve the problem is also obvious: $a$'s firing causes a part of $Q$ and a part of $Q$ causes $f$'s firing, but the part of $Q$ that $a$'s firing caused is not the part of $Q$ that caused $f$'s firing. It's not that causation isn't transitive, but rather that this is a case where the question of transitivity does not arise, since the part of $Q$ caused by $a$'s firing and the part of $Q$ that caused $f$'s firing are not the same parts of $Q$. It is easy to see the problem in an example where the parts of events that are the causal relata are different spatiotemporal parts; logical parts of events are analogous to spatiotemporal parts, and the solution to the problem cases of transitivity follows the same formula.

The idea that causal relata can be aspects of events seems to me to be an intuitively acceptable claim, and it can help us resolve the sorts of problems with transitivity I’ve presented. Here’s an outline for how new counterfactual and regularity analyses might look:

**Counterfactual:** Call any possible event with all (and only) the properties of $c$ except property $p$ (and properties implied by $p$) a *version* of $c$. I do not specify whether a version of $c$ is an event that is $c$ or different from $c$. Counterfactual theories can hold that for any two distinct, actual events $c$ and $e$, and any two properties $p$ and $q$:

If $c$ without $p$ occurs, then $e$ qua $q$ is counterfactually dependent on $c$ qua $p$ if, had a version of $c$ occurred instead of the actual $c$, then $e$ would not have occurred with $q$.\(^{55}\) We can take counterfactual dependence to be causal dependence, and causal dependence implies causation. If the ancestral of the relation of causal dependence is taken, causation can be held to be transitive, so $c$ qua $p$ causes $e$ qua $q$ if there is a chain of causal dependencies running from $c$ qua $p$ to $e$ qua $q$.\(^{56}\)

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\(^{55}\) Thanks to Gideon Rosen for saving me from an error in this paragraph.

\(^{56}\) Neither this analysis nor the regularity analysis can use ‘iff’ because of problems with trumping (and other problems.)
**Regularity:** For any two distinct, actual events $c$ and $e$, and any two logically distinct properties $p$ and $q$, $c$ qua $p$ causes $e$ qua $q$ if $c$’s occurrence with $p$ is part of a sufficient condition, under the right regularities or laws, for $e$’s occurrence with $q$.

Negative aspects, or absences of aspects, occur when an event lacks a property. Thus, $c$ qua $p$ can be a cause of $e$ qua not having $q$, if $e$ qua not having $q$ depends causally on $c$ qua $p$.\(^{57}\) The view that aspects of events are the causal relata raises some interesting issues about the role of descriptions in causal explanations and about the semantics of causal talk. Perhaps we can say that one way to select descriptions of events as appropriate to include in causal explanations requires that the descriptions selected refer to the aspects of the events that are doing the causing. (Or maybe the description selected, in conjunction with background knowledge and other contextual factors, allows the listener to infer the relevant aspects.\(^{58}\) ) If the description does not refer to any aspect of an event that did the causing, then that description is not a good causal explanation. With regard to the semantics of causal talk, perhaps we can say that the entities referred to in causal statements are logical parts of events and only in a derivative sense are the events as a whole referred to. Note that in neither analysis do I exclude cases where whole events are

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\(^{57}\) There is a further debate about the role of omissions, or nonactual events, that I do not have the space to address here. The debate centers around cases involving causes preventing events and absences of causes preventing or allowing other events to occur (the latter are part of the structure of cases of double prevention, where an event causes another event to be absent, and the absence of this event allows another event to occur.) I think that instances of causation where absences prevent or allow other absences are different in kind from prevention (where a cause prevents an effect from occurring) and other cases of ‘ordinary’ causation. I must also set aside the question of whether or not there is a sensible way of having negative aspects where we have a nonactual event.

An additional reason for caution here is that when we combine the kinds of causation that involve absences as causes with ordinary causation, we can get strange cases where it is by no means clear that transitivity holds. Such cases are discussed in John Collins’s ‘Preemptive Prevention’, forthcoming. Discussion of omissions, prevention, and double prevention can be found in David Armstrong’s ‘The Open Door’, in Howard Sankey, ed., *Causation and Laws of Nature* (Kluwer, forthcoming), Helen Beebee’s ‘Causes, Omissions and Conditions’, presented at the 1998 Australasian Association for Philosophy, Phil Dowe’s ‘Good Connections: Causation and Causal Processes’ in Howard Sankey, ed., *Causation and Laws of Nature* (Kluwer, forthcoming), Lewis’s ‘Void and Object’, forthcoming and Ned Hall’s ‘Two Concepts of Causation’, forthcoming, among others.)

\(^{58}\) I’m indebted to Chris Hitchcock for this suggestion.
causes or effects: in these cases I think the whole event is a cause or effect just in case each of its aspects is.

Under either a regularity or a counterfactual analysis, we can say that the skiing accident, *qua* being an accident involving a breaking of the right hand, caused the writing of the paper *qua* being a writing with the left hand. The skiing accident *qua* being an accident involving a breaking of the right hand is part of a sufficient condition for the writing of the paper *qua* being with the left hand, and if the skiing accident *qua* being an accident involving a breaking of the right hand had not occurred, the writing of the paper *qua* being with the left hand would not have occurred. But since it was the writing of the paper *qua* being a writing of a publishable paper (rather than *qua* being a writing with the left hand), that was among the causes of the publication of the paper, transitivity does not apply. The writing of the paper, *qua* being a writing of a publishable paper, is part of a sufficient condition for the publication of the paper, and if the writing of the paper, *qua* being a writing of a publishable paper, had not occurred, the publication of the paper would not have occurred. Aspect *p* caused aspect *q*, but aspect *r* caused aspect *s*.

The follow-up example, where the skiing accident is a cause of the cramping in my left hand, can also be explained: the skiing accident, *qua* being an accident involving a breaking of the right hand, caused the writing of the paper *qua* being a writing with the left hand, and the writing of the paper *qua* being a writing with the left hand caused the cramping of the left hand *qua* being a cramp of the left hand. Here, *p* caused aspect *q*, and aspect *q* caused aspect *r*: transitivity holds, and so aspect *p* caused aspect *r*.

Aspects are superior to facts for at least three reasons. First, aspects can be more fine grained: we can use them to make Fred Dretske’s distinctions between Suzy’s *stealing* the bicycle and Suzy’s stealing the *bicycle*, whereas fact theories can say only
that there is the fact of Suzy’s stealing the bicycle.\footnote{Fred Dretske, `Referring to Events’, Midwest Studies in Philosophy 2 (1977), 90-9. Bennett, Events and Their Names, 32-5, argues that this problem for facts as the causal relata is defeasible. Others have tried to make facts even more fine grained by introducing ‘highlighted’ facts.} Second, unlike facts, aspects are located in time and space.\footnote{Unless facts (in the senses of truths) really are located. Mellor, The Facts of Causation, p. 113, argues that they are.} Third, aspects do not depend on a particular conception of what a proposition is for explication. Aspects are also superior to events: in addition to resolving the problems with transitivity in an intuitive way, they do not depend on a theory of essentialism (unlike Lewis’s view). Further, there is no multiplication of physical entities over and above the properties already exemplified in the world (unlike Kim’s and Lewis’s views). Finally, accepting aspects in place of events as the causal relata will solve outstanding problems for theories of causation.

Recognizing that aspects of events rather than events \textit{simpliciter} are causes and effects frees us from the conception of effects as dependent on their causes only when the occurrence or nonoccurrence of the effect depends upon the occurrence or nonoccurrence of the cause. We’ve just seen how rejecting this conception of dependence as too restrictive helps us with the problem of transitivity: we will now see how the conception is related to a way of viewing the problem of late preemption, and how rejecting it will help us to solve our problems with these sorts of cases as well.

First, return to the view that events, rather than aspects, are the causal relata. The standard view of late preemption under the assumption that events are the causal relata was to regard it as a problem involving event individuation. We lacked the requisite dependence of the effect on the preempts the cause, and, the thought ran, since the only way to get dependence of the effect on the cause is to claim that the effect would not have occurred if the cause hadn’t occurred (or that only the preempts the cause, and not the preempts the cause, is sufficient for the occurrence of the effect), we had to dream up a plausible way to define the effect so that it would satisfy these conditions. Individuating
events extremely finely gives us this dependence, but only at the cost of common sense views about identity conditions.

But we can approach the problem a different way. Recognize that the effect, even when coarse grained, is dependent on the preemting cause—not straightforwardly dependent for its occurrence, but for (at least) one of its properties, the property of when it occurs. When the effect is caused by the preemting cause, it occurs earlier than it would have, had it been caused by the preempted cause. Ted made the goal at exactly 5 p.m.: if he’d missed the ball, Jeff would have made the goal at a moment past 5. The preemting cause beats the preempted cause to the punch—and causes the effect to happen earlier than the preempted cause can.

Now, even under a theory that takes events to be the causal relata, we can exploit this asymmetry between the preemting and preempted cause to construct a solution for cases of late preemption. Recall that in the problematic cases, the chunk of the preempted causal process that we are interested in runs more slowly (or starts later than) that of the preemting causal process. Thus, the occurrence of the effect is earlier than it would have occurred as the result of the preempted cause; in this sense, the occurrence of the effect is the event that preempts the slower causal process.

So in each of these cases, the effect, supposing that it would have been the same effect, would have been delayed had it been caused by the preempted cause. So advocates of events as causal relata can construct a simple solution involving an amendment of the original counterfactual and regularity analyses for deterministic causation to reflect this fact. Amend a counterfactual analysis to read: \( e \) depends causally on \( c \) iff \( c \) occurs, \( e \) occurs at a certain time \( t \), and if \( c \) had not occurred, then \( e \) would not have occurred at \( t \) (either because it would have occurred at another time or it would not have occurred at all.) Causation can be taken as the ancestral of the relation of causal dependence: \( c \) causes \( e \) iff there is a chain of causal dependencies running from \( c \) to \( e \). Amend a regularity
analysis to read: \( c \) is a cause of \( e \) if \( c \) is part of a sufficient condition, under the right laws or regularities, for the existence of \( e \) at a certain time \( t \).

Recall Ted and Jeff: both aim at the ball and begin to kick: Ted’s foot hits the ball a moment before Jeff’s does, and the kick sends the ball soaring between the goalposts. But if Ted hadn’t kicked the ball, Jeff would have, and moreover he would have kicked it with just the same force and in the same direction, etc., except that the kick, and thus the goal, would have occurred a moment later than it actually did. The solution (for advocates of events as relata) for the counterfactual analysis tells us that if Ted had not acted, the goal would have occurred later than the time that it actually occurred, so Ted’s act counts as a cause of the goal. Not so for Jeff’s act: if Jeff had not acted, the goal would still have occurred, and it would not have occurred later than it actually did. The solution (for advocates of events as relata) for regularity analyses tells us that Ted’s act is part of a sufficient condition, under standard physics, for the goal’s occurring at the time \( t \) that it actually occurred, so Ted’s act counts as a cause of the goal. Not so for Jeff’s act: it is not sufficient under the laws for the goal to occur at the time \( t \) that it actually occurred. So the proposed emendation allows the counterfactual and regularity analyses to solve the problem.

To resolve the problem of late preemption this way requires the acceptance of hasteners, events that speed up the occurrence of an effect that would have happened anyway, and delayers, events that slow down the occurrence of an effect that would have happened anyway, as causes of an effect.\(^{61}\) I think that those who think that events are the causal relata should accept this view, but skeptics might disagree—they might think it’s acceptable to call Ted, as a hastener, a cause of the goal, but that not every hastener (or delayer) of the goal should count as a cause. For example, if Ted had hiccuped at \( t-3 \),

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\(^{61}\) In my ‘Keeping Track of the Time’, *Analysis*, 1999, I argue in favor of accepting hasteners as causes. To solve the problem of late preemption we need only accept hasteners as causes: delayers are not needed. However, though I don’t argue for it here, I think we could accept delayers as causes as well—or at least, we should accept that aspects of events can cause events to be delayed.
a little before he kicked the ball, and the hiccup speeded up his kick (so that the kick occurred at \(t-2\) instead of \(t-1\)), then the goal would have occurred at \(t-1\) instead of at \(t\). The claim that hasteners are causes would mean that the hiccup would also count as one of the causes of the goal.

I think that it is acceptable to consider the hiccup to be one the causes of the goal—it certainly caused the goal to occur at a particular time, \(t-1\), and if causing an effect to occur at \(t-1\) counts as causing an event simpliciter (even if it isn’t a very salient way of causing the effect), then we have an acceptable analysis. But the skeptical objection has a foundation that makes it reasonable, for accepting hasteners as causes in this way blurs the distinction between Ted’s kick as a hastener of the goal and the hiccup as a hastener of the goal. It’s true that both are hasteners, but Ted’s kick seems to be more of a cause, or to do more causing, than the hiccup. Similar objections apply in the case of delayers.

The skeptical objection leads us to consider further ways that effects can depend upon their causes—all the way, I think, to the view of aspects as causal relata. If we accept the aspects view, we can accept hasteners and delayers as causes in a more discriminatory fashion. We already know that, in cases of late preemption, at least one aspect of the effect, the time when the effect occurs, is dependent on the preempting cause. We used this fact of when-dependence to distinguish between the effect as caused by the preempting cause and the effect as caused by the preempted cause. But if we reject restrictive characterizations of event dependence and make the causal relation sensitive to all of the aspects of the events that are doing the causing, the puzzle of late preemption dissolves.

Under the view that events are the causal relata we can claim that Ted’s kick, in virtue of being a hastener, counts as a cause. But under the view that aspects are the causal relata we get much more than this. The aspects solution tells us that Ted’s kick, \(qua\) being a kick in such and such a direction and with such and such force at time \(t-1\), counts a cause of the ball sailing through the goalpost \(qua\) having a certain velocity at time \(t\). If Ted’s
kick had not occurred at \( t-1 \) with the direction and force that it actually did, the goal would not have occurred at \( t \) as it actually did. Under a regularity analysis, the property of Ted’s act, being a kick in such and such a direction and with such and such force at time \( t-1 \) is part of a sufficient condition, under the laws, for the ball to sail through the goalposts with a certain velocity at time \( t \). Under a counterfactual analysis, if the property of Ted’s kick, being in such and such a direction and with such and such force at time \( t-1 \), had not been a property of the kick that actually occurred, the ball would not have sailed through the goalposts with the velocity at time \( t \) that it actually had. So Ted’s kick, qua occurring at time \( t-1 \) with a particular direction and force, caused the ball to sail through the goalposts, qua having a particular velocity at time \( t \). We get all the virtues of a fragility solution’s sensitivity to the properties of the event as it actually occurred—without the cost to our common sense intuitions about event identity.

Further, the solution distinguishes nicely between hasteners like Ted’s kick, which causes the goal to happen at time \( t \), but also causes other aspects of the effect, and simple hasteners, like Ted’s hiccup. As the example was presented, if the hiccup hadn’t occurred at all, or had occurred, say, after Ted had kicked the ball, the goal would have occurred at a different time, so the hiccup’s occurring how and when it did is part of a sufficient condition for the goal’s occurring at the time it did. So Ted’s hiccup \( qua \) occurring at \( t-3 \) caused the goal \( qua \) occurring at \( t-1 \). But, as the hiccup story was told, the aspect of the time at which the goal occurred is the only aspect of the goal that depends upon the hiccup: the hiccup, unlike Ted’s kick, merely hastens the goal, rather than affecting it in any other way.

IV. Aspect Causation: the Analysis

Thus far, aspect causation gives us a flexible new method for determining causes and their effects. But, at least with respect to the counterfactual version of aspect causation suggested above, it is too flexible. Return to the solution for late preemption above. The
counterfactual solution tells us rightly that the hiccup *qua* occurring at $t-3$ caused the goal *qua* occurring at $t-1$, and Ted’s kick, *qua* occurring at time $t-1$ with a particular direction and force, caused the ball to soar through the goalposts, *qua* having a particular velocity at time $t$. Unfortunately, it also tells us more—that Jeff’s kick, *qua* occurring when and how it did, was also a cause of the goal occurring when and how it did. For if Jeff’s kick had occurred early enough (i.e., before Ted’s kick) or with enough force, Jeff’s kick would have caused the goal before Ted’s kick could have.

Now, this result is not wildly implausible—it can be made palatable—but I think it is unattractive. Perhaps the solution is to drop the counterfactual version of aspect causation and accept the sufficiency version. But sufficiency analyses have serious trouble with (so-called) early preemption. Early preemption cases are similar to late preemption cases: we have two potential causes, each of which in the absence of the other is sufficient for the effect, but where intuitively only one of the potential causes actually caused the effect. Joe mixes the poisoned cream with the poisoned coffee: the poison in the cream neutralizes the poison in the coffee, so when Joe drinks the creamy coffee he dies from the cream *qua* containing lethal poison. But if he had drunk the coffee black, he would have died the very same death, caused by the coffee *qua* containing lethal poison not the cream *qua* containing lethal poison. (Assume the death resulting from the poison in the coffee would have been the same in all respects.) Intuitively, death *qua* poisoning (aspect $e$) is caused by aspect $d$, the cream *qua* containing lethal poison. This kind of case creates a problem for the sufficiency version only if the relevant properties of the effect caused by the preempting cause would have been exactly the same if caused by the preempted cause. In such a case, the analysis would tell us that preempted cause, along with the preemting cause, was sufficient for the effect.

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62 As by Lewis, ‘Causation as Influence’, forthcoming.
63 The cases usually involve two potential causes, but any number (larger than one) of competing potential causes will do the trick.
Counterfactual analyses can solve early preemption cases. This because all such cases have a common structure: at some point an aspect $q$ in the causal chain from the preemting cause $c_1$ to the effect $e$ prevents an aspect $r$ in the preempted causal chain, ‘cutting’ the causal chain between the preempted cause $c_2$ and $e$, which prevents $c_2$ from causing $e$. The effect $e$ is not directly causally dependent upon $c_1$: if $c_1$ had not occurred, $e$ would still have occurred, caused by $c_2$. But, setting aside cases involving action at a distance, there is some aspect $d$ in the causal chain from $c_1$ that is caused by $q$ after the chain from $c_2$ has been cut. The effect $e$ depends causally on aspect $d$, $d$ depends causally on $q$, and $q$ depends causally on $c_1$. By transitivity, the preempting cause $c_1$ is a cause of $e$. In our example, the death *qua* poisoning depends causally on the presence of aspect $d$, the cream *qua* containing lethal poison, at some point after the presence of the poison in the cream (aspect $q$) causes the neutralization of the poison in the coffee, and $d$ depends causally on $q$ (and $c_1$.)

So there are components of both the counterfactual and sufficiency analyses which are worth keeping, but each analysis as it stands is inadequate. The successes of each approach suggest a solution: combine the two approaches. The proposed analysis can be summarized thus:

**Aspect Causation:**

For any two distinct, actual events $c$ and $e$, and any two properties $p$ and $q$, where $c$ has $p$ and $e$ has $q$:

(i) if, had a version of $c$ without $p$ occurred instead of the actual $c$, then $e$ would not have occurred with $q$, then $e$ *qua* $q$ is counterfactually dependent on $c$ *qua* $p$.  

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64 See Lewis, ‘Causation’, *Philosophical Papers*, vol. 2 (Oxford: New York, 1986), 159-72. The solution requires the exclusion of backtracking counterfactuals (counterfactuals whose consequents refer to a time earlier than the time referred to by their antecedents, and cannot solve cases with infinitely many preempted alternatives. For theoretical reasons, Lewis would class such cases, along with some cases involving action at a distance, as late preemption.

65 As before: call any possible event with all (and only) the properties of $c$ except property $p$ (and properties implied by $p$) a *version* of $c$, and do not specify whether a version of $c$ is an event that is $c$ or
(ii) if \( c \)'s occurrence with \( p \) is (nonredundantly) sufficient, under the right regularities or laws, for \( e \)'s occurrence with \( q \), then \( c \ qua p \) is nonredundantly sufficient for \( e \ qua q \).

We may hold that \( e \ qua q \) depends causally on \( c \ qua p \) if and only if (i) and (ii). So iff \( e \ qua q \) is counterfactually dependent on \( c \ qua p \) and \( c \ qua p \) is sufficient for \( e \ qua q \), \( e \ qua q \) depends causally on \( c \ qua p \). Taking the ancestral of causal dependence in order to give us causation, \( c \ qua p \) is a cause of \( e \ qua q \) iff \( e \ qua q \) depends causally on \( c \ qua p \) or there is a chain of causal dependencies running from \( c \ qua p \) to \( e \ qua q \). 66 Our new analysis delivers on several important issues:

**Early Preemption:** The solution follows the same lines as the solution for the counterfactual analysis above. If aspect \( c_2 \) is preempted by aspect \( c_1 \), but \( c_2 \) would have caused the same aspect \( e \) as \( c_1 \) if \( c_1 \) had not occurred, then \( e \) does not depend directly on \( c_1 \). However, there is a chain of causal dependencies running from \( c_1 \) to \( e \) via \( q \) and \( d \), so \( c_1 \) is a cause of \( e \). 67

66 Jonathan Bennett, in *Events and Their Names*, argues that facts are the causal relata, and that if a fact is necessary and sufficient for another fact it is a cause of that fact. Bennett’s version of necessity does not involve counterfactuals: rather, he takes necessity to amount to insufficiency, i.e., lack of entailment under the laws. (p. 49)

67 The defining feature of causation by action at a distance is that between cause and effect we lack a continuous series of events; there is no causal chain connecting \( c \) and \( e \), but \( c \) and \( e \) are separated in space and (or) time. If aspect \( q \) causes aspect \( e \) without benefit of intermediate aspect \( d \), then there may be no chain of causal dependencies running from \( q \) to \( e \).

For simplicity’s sake I have set aside cases involving action at a distance, but not because I reject the possibility that causation can involve spatiotemporally discontinuous processes. Rather, I think that if aspect \( c \) can cause aspect \( e \) via action at a distance, this sort of causation is different than the kind of causation that requires counterfactual dependence. I distinguish it because it differs significantly from the sorts of causal processes with which we are familiar, i.e., one to which we can apply our ordinary causal intuitions. I suspect that the analysis of action at a distance causation will be our earlier sufficiency analysis for aspects: if we lack intermediate events, cases involving early preemption cannot arise (there is no intermediate event to be prevented, so no causal chain to be ‘cut’.) If so, then on the assumption that causation is transitive, cases of early preemption involving action at a distance in the preempting causal chain (between aspects \( q \) and \( e \) in the example) are resolvable: \( q \) is sufficient for \( e \), so \( q \) is a cause of \( e \), and since the preemtping cause is a cause of \( q \), by transitivity, it is a cause of \( e \).

Ned Hall, ‘Two Concepts of Causation’ suggests that causation by action at a distance is a kind of causation that differs from the ‘ordinary’ kind, and proposes a sufficiency analysis involving minimally
Late Preemption: There are no cases of late preemption with aspect causation. As shown above in section III, \(c_1\) and \(c_2\) simply cause different aspects in so-called cases of late preemption. The new analysis also resolves the promiscuity problem that we had above with the counterfactual version of aspect causation: the aspect(s) of Jeff’s kick that we’ve been calling the preempted cause(s) are not sufficient under the laws for the effect’s occurring how and when it did, and so do not count as causes.

Overdetermination (symmetrical): Cases of symmetrical overdetermination are standard cases in which an effect is overdetermined by its causes: aspects \(c_1\) and \(c_2\) initiate causal chains, both of which lead uncut to aspect \(e\). Gunman 1’s shooting qua in direction \(f\) with an exploding bullet (aspect \(c_1\)) and gunman 2 qua shooting in direction \(f\) with an exploding bullet (aspect \(c_2\)) cause the victim to die qua various grisly details (aspect \(e\)). Each gunman shoots at just the same time, and the victim dies in the way he would have if only one of the gunmen had shot.

Aspect \(c_1\) is not necessary for aspect \(e\), nor is aspect \(c_2\). However, intuitively, \(c_1\) alone is not the cause of \(e\) (although it could have been, in some close possible world), and neither is \(c_2\) (although it could have been, in some close possible world). Although our intuitions are not perfectly clear on the matter, I think, and I believe that most people are inclined to agree, both \(c_1\) and \(c_2\) cause \(e\). In the world of our example, \(c_1\) and \(c_2\) both occur and seem to cause \(e\) together. Taking the mereological sum of \(c_1\) and \(c_2\) we see that \(e\) depends causally on \((c_1\ and\ c_2)\): if \((c_1\ and\ c_2)\) had not occurred, then \(e\) would not have occurred, so \(e\) depends counterfactually on \((c_1\ and\ c_2)\); and \((c_1\ and\ c_2)\) is sufficient, under the laws, for \(e\). Of course, mereological sums of aspects are only admissible as causes of sufficient sets. I agree with him, at least in spirit, and I am indebted to his insight that causation by action at a distance is a different kind of causation.
an effect if each part of the mereological sum (each aspect) is nonredundant, i.e., is part of a sufficient condition for the effect.

Overdetermination (asymmetrical): Cases of asymmetrical overdetermination are a new kind of case in which an effect is overdetermined by its causes. Aspects \(c_1\) and \(c_2\) initiate causal chains, both of which lead uncut to aspect \(e\), but \(c_1\), as a matter of law, ‘trumps’ \(c_2\), so that \(c_1\) seems to be a better candidate than \(c_2\) for the title of ‘cause of \(e\’\). 68

A true case of trumping as opposed to preemption (where the causal chain of the preempted cause is cut) takes a bit of setting up. Imagine a kind of neuron that, by firing, can cause other neurons to fire in color. 69 Now take a neuron \(c_1\) which by firing can cause neuron \(e\) to fire in red, and a neuron \(c_2\) which by firing can also cause neuron \(e\) to fire in red. But \(c_1\) is more powerful than \(c_2\): the laws governing these kinds of neurons state that when neurons of \(c_1\)’s kind stimulate neuron \(e\) at the same time as neurons of \(c_2\)’s kind stimulate \(e\), \(e\) will fire in the color that \(c_1\) stimulates it to fire in—not by preventing \(c_2\) from stimulating \(e\), but just as a fact of the matter. If a neuron of \(c_1\)’s kind and a neuron of \(c_2\)’s kind simultaneously stimulate \(e\) to fire, it fires in red. Which neuron caused it to fire in red? Because of our law regulating neuron behavior, we know that \(c_1\) ‘trumps’ \(c_2\): \(c_1\) is the dominant cause of the neuron’s firing in red, so \(c_1\), not \(c_2\), is the cause of \(e\)’s firing in red.

Or is it? For reasons of exposition, my presentation of the case was somewhat oversimplified. I sloughed over an important detail: exactly how the laws imply that neurons of \(c_1\) dominate the color of \(e\). Importantly, they do not imply that \(c_1\) somehow prevents a chain leading from \(c_2\) from causing \(e\) to fire: if they did, this would just be a case of preemption, resolvable using the method above. If the case were one of

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68 These cases are presented in Jonathan Schaffer’s ‘Trumping Preemption’. Schaffer includes these cases with preemption cases. I think this is misleading, however: neither cause is preempted (i.e., prevented from causing the effect). If one cause was prevented from causing the effect by having its chain cut or prevented from going to completion, then the solution for preemption cases, above, would apply.

69 This case is taken (with some small modifications) from a letter from Ned Hall to David Lewis, Spring 1997.
preemption, then \(c_1\), but not \(c_2\), would be a cause of \(e\). But the process from \(c_2\) to \(e\)’s firing by definition goes to completion: \(c_2\) causes \(e\) to fire in red just as \(c_1\) causes \(e\) to fire in red—the catch is, because of the way the laws work, \(c_1\) is more of a cause—than \(c_2\).\(^70\) So both \(c_1\) and \(c_2\) contribute causally to \(e\)’s firing in red, but \(c_1\) contributes more than \(c_2\), given the laws (since if \(c_1\) had stimulated \(e\) to fire in, say, blue, \(e\) would have fired in blue, and the chain from \(c_2\) to \(e\) would have been cut. Not so for \(c_2\).) So it isn’t quite right to say that \(c_1\) but not \(c_2\) contributes to the causing of \(e\).

The case, whether or not it is possible in the actual world, shows us that overdetermination can create trouble in more ways than one. In particular, the laws of some world could specify that the contributions made by the causes in a case of overdetermination are asymmetric (rather than in more everyday cases where the laws, at least de facto, imply that the contributions are symmetric), so that one cause is somehow more of a cause than another.\(^71\)

Under the aspects analysis, the case is resolved much like cases of symmetrical overdetermination: \(e\) depends causally on \((c_1\) and \(c_2)\): if \((c_1\) and \(c_2)\) had not occurred, then \(e\) would not have occurred, so \(e\) depends counterfactually on \((c_1\) and \(c_2)\); and \((c_1\) and \(c_2)\) is sufficient, under the laws, for \(e\).

However, in a case of symmetrical overdetermination, the laws specify that both mereological parts of the cause \((c_1\) and \(c_2)\) make an equal contribution to the sufficiency of \((c_1\) and \(c_2)\) for the effect \(e\): the causal contribution is the same. In a case of asymmetrical overdetermination, the laws specify that the different mereological parts of the cause contribute differently to the effect, i.e., that one mereological part is more dominant than another. What differs here is the way that the laws specify that \((c_1\) and \(c_2)\) is sufficient for

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\(^70\) I am still sloughing a bit: in the first part of the example, precisely how does \(c_1\) ‘dominate’ the causing \(e\) to fire in red without cutting the causal chain from \(c_2\) to \(e\)? Answer: I don’t know; I suspect it would require laws that depart significantly from the ways of our world. However, we should take it as given to get the example off the ground.

\(^71\) Here, I follow David Lewis and others in holding that causation can come in degrees.
the effect. The more asymmetric the contribution, the more $c_1$’s contribution counts. However, as long as $c_2$’s causal chain runs to completion, $c_2$ is part of the cause to some degree.

What the aspects analysis tells us (for any kind of overdetermination) is that $(c_1$ and $c_2)$ counts as a cause of $e$. What we need in addition is an assessment of how much of a contribution $c_1$ and $c_2$ make to the sum $(c_1$ and $c_2)$ that is the cause of $e$—we need to know to what degree $c_1$ contributes to $(c_1$ and $c_2)$’s sufficiency for $e$, and to what degree $c_2$ contributes to $(c_1$ and $c_2)$’s sufficiency for $e$, when the mereological sum $(c_1$ and $c_2)$ cause $e$. 72 This information can be read off from the laws after we have determined the cause $(c_1$ and $c_2)$ of $e$. The concept of different degrees of contribution to a cause that is sufficient for an effect is strange, but this is exactly what the laws of a trumping world imply: when two aspects causally sufficient for an effect overdetermine that effect, there is an interaction effect, implied by the laws, that determines the degree of the contribution that each aspect makes in the presence of the other in order to cause the effect.

Transitivity: We have already seen above how aspect causation handles transitivity: if aspect $c$ causes aspect $d$, and aspect $d$ causes aspect $e$, $c$ causes $e$. The aspects analysis tells us that the writing of the paper qua with the left hand depends causally on the skiing

72 David Lewis, in ‘Causation as Influence’, argues that in trumping cases we can determine that $c_1$ is more of a cause than $c_2$ by examining counterfactual patterns: if $c_1$ had occurred even slightly differently, then $e$ would have occurred differently. On the other hand, slight differences in $c_2$ would not result in differences in $e$. (Large differences in $c_2$ might give us differences in $e$: e.g., if $c_2$ had occurred much earlier than it actually did, etc.) Since smaller differences in $c_1$ than in $c_2$ make differences in $e$, $c_1$ influences $e$ more than $c_2$, so $c_1$ is more of a cause than $c_2$. The bigger the gap between the differences in $c_1$ and $c_2$ needed to influence $e$, the more $c_1$ influences $e$ than $c_2$ influences $e$.

I take Lewis’s method of examining the counterfactual patterns exhibited by events $c_1$ and $c_2$ and effect $e$ to be a useful way of determining how much $c_1$ and $c_2$ contribute to the sufficiency of a cause for $e$. The counterfactual patterns tell us that if $c_1$ was slightly different (but $c_2$ was not), $c_1$ and $c_2$ would be sufficient for a different $e$, whereas if $c_2$ were slightly different (but $c_1$ was not), then $c_1$ and $c_2$ would be not be sufficient for a different $e$. The more sensitive variations in $e$ are to variations in $c_1$ (and likewise for $c_2$), the more $c_1$ contributes to the sufficiency of the mereological sum of $c_1$ and $c_2$ for $e$. (Obviously, different ways of varying $c_1$ and $c_2$ will result in different variations of $e$. Some changes in $c_2$ will give changes in $e$. It is the overall pattern—all the possible variations—that tells us the overall contribution $c_1$ and $c_2$ make to the sufficiency of $(c_1$ and $c_2)$ for $e$.)
accident *qua* being an accident to the right hand, and the cramping *qua* in the left hand depends causally on the writing of the paper *qua* with the left hand. So aspects of the skiing accident cause aspects of the cramping. However, aspects of the publication of the paper do not depend causally on aspects caused by the skiing accident, so aspects of the accident do not cause aspects of the publication.

V. Conclusion

When we accept that the causal relata are aspects of events, we are free to develop a range of views about eventhood without holding our theory of causation hostage to our theory of identity conditions for events. I intend for aspects to be as attractive to those who like events as to those who like facts: indeed, I think the proposal takes what is best about each view and leaves out what is unacceptable. By recognizing that aspects of events are the causal relata, we can conform to common sense, retain a role for events in accounts of causation, allow our causal relata to be at least as fine grained as facts, and clear away a number of spurious problems that have hampered the development of a reductive analysis of the (deterministic) causal relation. Moreover, an aspect-based reductive analysis of causation gives us a fairly simple and strong method that can underpin causal theories in other areas; in particular, causal theories of the mental. Even if one took the pessimistic view that no adequate reductive analysis of causation is possible and that we must take causation as primitive, the development of the view of aspects as the causal relata can serve as a needed underpinning for theories relying on causation in other areas.  

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73 I am indebted to Ned Hall, Chris Hitchcock, David Lewis, Bas van Fraassen, Steve Yablo and an audience at the 1998 Australasian Association for Philosophy for helpful comments that led to improvement.
Causal responsibility is normally assumed to be necessary for moral responsibility. For an agent to be held morally responsible for an event, she must be, at the very least, causally responsible for the event: her act must have caused or be one of the causes of the event.

Or so we might think. I’ll argue that this view is mistaken, and that strictly speaking an agent does not need to be causally responsible for an event to be held morally responsible for it. When we investigate borderline cases, it turns out that our normal everyday concept of moral responsibility does not require causal responsibility, but a more subtle notion I’ll call causal ancestry.

To begin the investigation, we’ll need some technical notions. Say that causation is transitive iff when event \(a\) causes event \(b\) and event \(b\) causes event \(c\), then \(a\) causes \(c\). The transitivity of causation, usually taken for granted, plays an important role in moral assessment, since many hold that causal responsibility is necessary for moral responsibility. More terminology: an event \(c\) can be a preempting cause in a case where we have more than one potential cause of an effect, and \(c\) is an event that both causes the effect and prevents other potential causes from causing the very same effect. If \(c\) had not occurred, the effect would have occurred anyway, but caused by some other event. The potential causes that were prevented from causing the effect are called the preempted causes. A causal chain is a series of events that are causally linked; so if event \(a\) causes event \(b\) and event \(b\) causes event \(c\), then we have a causal chain from \(a\) to \(c\). (Note that the notion of a causal chain does not imply transitivity; i.e., if causation is not transitive,

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74 Thanks for helpful comments from Harry Frankfurt, Gil Harman, and especially David Lewis.
then $c$ can be linked to $a$ by a causal chain, but $a$ may not cause $c$.) Now consider the case of

**All the President’s Men**

**Scenario 1**: Secret Service agents A and B are guarding the President. Suddenly, A sees the glint of a gun barrel in the crowd (and sees a man pull the trigger). He leaps in front of the President, taking the bullet in his own chest.

Agent A is hailed as a hero, and praised for saving the President’s life.

**Scenario 2**: Secret Service agents A and B are guarding the President. Suddenly, A and B see the glint of a gun barrel in the crowd (and see a man pull the trigger). Simultaneously, they leap in front of the President. A takes the bullet in his own chest.

Who gets the praise for saving the President’s life?

**First Reply**: A should receive the praise.

**Objection**: But A didn’t actually save the President’s life, since if A hadn’t taken the bullet, B would have.

**Second Reply**: B should receive the praise.

**Objection**: But B didn’t actually *do* anything that contributed to the President’s life being saved. He did not contribute causally to the situation at all.

**Third Reply**: Neither agent should receive the praise.

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Objection: But somebody (or something) saved the President’s life! Somebody should get some credit.

Fourth Reply: Both should receive the praise.

Objection: But, as objected above, B didn’t actually do anything that contributed to the President’s life being saved. Unless we are prepared to say that only the intrinsic features of the agents’ acts are relevant to their praiseworthiness, B’s acts are less praiseworthy than A’s.

Response to the Fourth Reply: So accept that only the intrinsic acts matter—moral luck should not be a factor in our assessments of praise or blame.

Objection: I didn’t tell you the whole story. Further off, there was a third agent—C—and another assassin. Assassin 2 also shot, just as assassin 1 did. Agent C saw the gun come up and the trigger being pulled, and hurled himself in front of the bullet.

Sadly (for agent C), the bullet was on a trajectory that would have come nowhere near the President. In fact, the bullet from the second assassin was going the wrong direction. In the confusion of the crowd, agent C had stumbled onto a shooting range (a demonstration of rifle skill was being held in honor of the President’s visit), and agent C took a bullet that was intended for an inflated balloon a few feet away. Assassin 2 was just a local farm boy. If A and B are heroes only because of their intrinsic acts, C is just as much of a hero. This is absurd. (If you feel that the story about C is too ridiculous, imagine that C, instead of stumbling onto a shooting range, was just behind B and saw the same gun as B just before B jumped. C, like A and B, intended to jump in front of the President. But when C tried to jump, for some reason he became paralyzed and couldn’t move. It is absurd to think that A and C should get the same amount of praise.)

I owe this point to Stephanie Lewis.
The case, as it stands, is oversimplified. Certainly B (and C) should receive some praise for their intent. They are praised for their intentions and for acting (or trying to act) in the way they would have needed to act in order to save the President’s life. Such praise would be praise for the intrinsic properties of their acts—theyir acts were intrinsically good, even if not extrinsically good, since they didn’t actually cause the intended effect (the saving of the President.)

But the problem is not that B and C don’t deserve some praise for what they did, but to explain why A should receive more praise than B or C. After all, it is unclear whether A actually causes the President’s life to be saved, since if he hadn’t taken the bullet, B would have. Normally, we ascribe praise to agents partly on the basis of the intrinsic quality of their acts and partly on the basis of extrinsic quality of their acts. In most cases where we have two agents who performed the same intrinsic act, we can point to the differences between the extrinsic qualities of their acts—what their acts caused—in order to account for asymmetries in praise and blame. In this case, the relevant extrinsic property that justifies the ascription of additional praise to the agent seems like it should be the property of having saved the President’s life. But because of the causal structure of the case, it seems like A did not actually save the President’s life—so we lack the usual justification for the asymmetry of praise.

Now, there are three responses to this problem. The first response is to claim that this puzzle strengthens the case against the view that extrinsic properties of acts have a role in our moral assessments (which include assessments of agents’ praiseworthiness and blameworthiness). This response would be defended by those who reject the role of moral luck in our moral assessments of agents, since the extrinsic differences between the agents’ acts can be seen as due to luck. The claim is that extrinsic qualities of an agent’s act, qualities the act has because the agent has moral luck, should not figure into our ascriptions of praise or blame: ascribing the same amount of praise to A, B and C is the only alternative that makes good moral sense. In other words, ‘All the President’s Men’
shows us that using extrinsic properties in our assessments of the praiseworthiness (or blameworthiness) of agents is even more problematic than we thought.

I reject the first response; the view that intrinsic qualities of agents’ acts are the only qualities we should use in our evaluation of the praiseworthiness (blameworthiness) of agents. I believe that agents’ moral assessments should be based in part on what they cause. However, as the first response has independent support from the moral luck literature, it will require a more detailed rebuttal.

The second response is to deny that transitivity fails in this case, and claim that A actually does cause the President’s life to be saved, justifying the asymmetry between praise given to him and the other agents. The point about transitivity involves the causal chain between A and the event of the President’s life being saved. In scenario 1, it is clear that A’s act caused the President’s life to be saved: A takes the bullet, and the absence of the bullet is a cause of the President being able to go on living. In scenario 2, the causal details of the case appear to be the same: A takes the bullet, just as before, and the absence of the bullet is a cause of the President being able to go on living. The trouble is, in the second case, a (noncausal) detail—the presence of agent B—makes us less willing to say that A caused the absence of the bullet which was a cause of the President being able to go on living. But why this is so is deeply unclear: B made no causal contribution to the drama, he merely made the possibility of the bullet’s getting to the President much less probable. The fact remains that A, not B, caused the absence of the bullet in the first place. But even so, most people are inclined to think that transitivity fails. The second response would deny the intuition that transitivity fails (and its defenders would presumably need to come up with a story about how transitivity holds after all.)

For in depth discussion of the causal structure of these cases and the problems with transitivity, see Collins’s ‘Preemptive Prevention’.
I reject the second response because it fails to respect our moral intuitions about the case. I don’t think that we engage in a complex assessment of transitivity in order to decide that A should receive more praise than the other agents—instead, I think whether or not transitivity holds doesn’t seem to matter to us. There are two reasons why the claim that transitivity gives us A’s act as the cause of the saving of the President’s life is wrong: first, there does not seem to be a clear way of assessing the causal details of the case in order to determine whether transitivity holds or not, and second, even if we thought transitivity failed, we would still have an unexplained asymmetry between the praise we want to assign to A and the praise we want to assign to B.

I think that whether or not transitivity holds is unclear, but there is real reason to doubt that it does: I know of no obvious (or even not-so-obvious) way to explain the causal details of the case so that A turns out to have caused the President's life to be saved. More importantly, worries about transitivity can be set aside, since the first reason is trumped by the second. As I told the case, it is clear that, at least if we hold with commonsense opinion in the matter, even if strictly speaking A did not cause the President’s life to be saved, we want to assign A more praise than we assign B or C. Why we want to do so needs more discussion—I’ll return to this point later.

The third response is to argue that the praiseworthy contribution that A makes to the drama is something over and above the contribution made by agents B and C, and that this contribution does not require transitivity to hold (i.e., it does not require that agent A’s act, strictly speaking, caused the President’s life to be saved.)

I favor the third response. I will argue that, strictly speaking, causal responsibility is not necessary for moral responsibility: an agent need not cause an act in order to be morally responsible for it. This does not mean that the agent has no causal role in the sequence of events leading up to the effect in question; on the contrary, I will argue that being a causal ancestor in the causal chain that leads up to the production of the effect is
necessary for moral responsibility. But as we shall see, this sort of causal contribution is not equivalent to being a cause of the effect.

To make my case for the view that causal responsibility is not necessary for moral responsibility, I’ll need to investigate the arguments about moral assessments of agents for acts that involve moral luck. I’ll argue that agents are responsible for more than just the intrinsic components of their acts: that agents can be held morally responsible for the extrinsic features of their acts (effects at the end of a causal chain) as well. The examination of the connection between causation and moral responsibility as part of our analysis of the problem of moral luck will help us explicate the kind of causal contribution an agent must make to the history of an effect in order to have moral responsibility for the effect, and will help in analyzing ‘All the President’s Men’ as well as related cases that are familiar from extant literature.

1. The Problem of Moral Luck:

It is initially plausible to hold that the moral assessment of a person should not be influenced by acts or events over which that person had no control. Thus, if someone does something involuntarily, or if some event occurs that is causally unconnected to that person, her moral assessment should remain unaffected. By ‘moral assessment’ I mean our moral evaluation of her, which includes the measure of praise or blame she is to receive for her acts or her character, as well as our reactive attitudes, such as admiration, gratitude, contempt, and disgust towards her.\textsuperscript{78}

\textsuperscript{78}That the moral assessment includes our reactive attitudes is important: you might think, as you read, that the differences in what I have been calling ‘moral assessments’ aren’t really moral differences at all. You might proceed from this view to the idea that, if the differences between our attitudes towards lucky and unlucky agents aren’t based on different moral attitudes, then the worry about inconsistency in our moral scheme disappears. Right—but the problem resurfaces immediately, since a version of what Nagel calls the condition of control applies to our everyday treatment of agents and the attitudes we adopt towards them, and as Bernard Williams points out: ‘...invoking this category [of nonmoral reactive attitudes] achieves absolutely nothing, unless one has some account of the singular importance of morality in [the] restricted sense. I still cannot see what comfort it is supposed to give to me, or what instruction it offers to other
The problem of moral luck seems to confute this claim. Some descriptions of what a person does are in part extrinsic, and such descriptions depend partly on factors that are not under her control. A person is subject to moral luck when what she does depends on factors not under her control, but common sense morality judges that she should receive moral assessment for her action. If there is such a thing as moral luck, then it would seem that, contrary to the moral intuition stated at the outset, factors not under one’s causal control can significantly affect one’s moral assessment. If these factors improve the moral assessment, one has moral good luck; if they damage the assessment, one has moral bad luck.

Thomas Nagel and Bernard Williams argue that the role moral luck plays in our moral assessments shows that our moral concepts are inconsistent with our moral scheme.\textsuperscript{79} Nagel argues that our moral intuitions are outright paradoxical, and Williams for a similar but broader claim involving the role of rational justification in moral assessments, but both see the problem as one which highlights an inconsistency in our moral views. If their view is correct, we seem to lose any basis for making moral assessments of (and assigning moral responsibility to) agents based on their good or bad actions.

Critics of moral luck have tried to dismiss the view that luck plays a role in our moral scheme. Proponents of moral luck argue that luck plays a role, and that it jeopardizes the role of moral judgments in our moral scheme. Both sides seem to accept the idea that if there is such a thing as moral luck, it threatens the coherence of our moral outlook.

\textsuperscript{79}In their papers (both) entitled ‘Moral Luck’. Nagel’s paper is included in his \textit{Mortal Questions} (Cambridge, 1979), and Williams’ paper is from his \textit{Moral Luck} (Cambridge, 1981), ch. 3. Both are reprinted in Daniel Statman, ed., \textit{Moral Luck}, SUNY Univ. Press, 1993. All page numbers will be to papers reprinted in this text unless otherwise specified.
I will disagree with both sides. I accept that the general moral intuition that agents are not praiseworthy or blameworthy for circumstances completely beyond their control is correct, but I also believe that, under certain conditions, luck, or factors beyond the control of agents, plays a role in our moral assessments. I will argue that the role of luck in our moral assessments is not in conflict with the rest of our moral scheme, and that a careful analysis of causal responsibility will show us why and how we assign moral responsibility even when luck is involved. But showing that our accepted moral scheme is not inconsistent is only half the battle, for I want also to try to show that the role that luck plays in our moral assessments is one which, when we understand it, sits comfortably with the rest of our moral outlook. In other words, I want to defend the normative claim that the role luck plays in our moral assessments does not conflict with the moral precepts that should be a part of our moral scheme. So there are two questions here: (1) are our moral precepts consistent with our actual moral outlook, and (2) are they consistent with the moral outlook that we should have? My answer to both will be yes.

There are four ways in which luck is standardly considered to play a role in our moral assessment of agents. Circumstantial luck, in which luck in one’s opportunities or circumstances plays a role in what one does or achieves, resultant luck, which is luck in how one’s projects or attempts turn out, constitutive luck, which is luck in how one is constituted, i.e., the kind of person you are with respect to your inclinations, temperament and capacities, but not with respect to what you deliberately do, and finally, ‘luck in how one is determined’, which is supposed to be luck in how one is causally determined by antecedent circumstances. (Nagel, p. 60)

As I am concerned with the claim that the problem of moral luck shows us that there is an inconsistency in our moral scheme over and above the problems of how we are constituted and what we need to have free will, I will set aside the latter two sorts of
lucky, constitutive and being determined by one’s antecedent circumstances.\textsuperscript{80} I will focus on Nagel’s claims about circumstantial and resultant luck: these are the sorts of luck that seem to confute our moral intuitions over and above determinism and free will worries, and are the ones that have occupied a central place in the discussions in the literature.

Consider two hypothetical Nazis living in Germany at the start of World War Two. Assume they are exactly alike in character, inclination and background. One happens to take a holiday in Argentina and, because of the outbreak of the war, cannot return (there are no civilian planes or ships going to Germany), and so lives quietly abroad until the end of the war. The other stays in Germany and becomes an official in a Nazi death camp. Both men would have happily committed the atrocities that the Nazi official actually did commit (e.g., forcing people into gas chambers, brutally watching them die, etc.), but one had the opportunity to do it and one did not. Now consider two feckless campers, again alike in character, inclination and background. They each go camping in a national park, and each builds a fire. Both leave their campsites in the morning and neglect to make sure their fires have gone out. Both fires burn for a while after they leave: one fire dies out. However, the second fire is fed by a gust of wind, flares up, and causes a raging forest fire, destroying the national park, burning down the neighboring community and killing several people.

Most of us feel that there are morally significant differences between the Nazi official who murdered Jews in Germany and the exiled Nazi who lived unobtrusively in Argentina, and between the camper who caused the death and destruction and the camper who did not. Yet the differences here seem to be matters of luck—they seem to be based upon factors outside of the control of the agents involved. The Nazi official and the

\textsuperscript{80}Constitutive luck involves genetic and childhood determining factors, and as such is a subspecies of ‘luck in how one is determined’ by antecedent circumstances before one becomes a free agent (an adult who can make reasoned choices). But even if you think constitutive luck may involve more than just the determinism or free will issue, still I don’t think this sort of luck bolsters the claim that there is a problem with moral luck: Judith Andre’s (1983) ‘Nagel, Williams and Moral Luck’, \textit{Analysis} 43, 202-7, argues convincingly that our moral assessments of character or constitution are Aristotelian, not Kantian, and so our moral intuitions recognize and assign a particular place for constitutive luck.
camper whose fire didn’t burn out had bad moral luck, while their counterparts had good moral luck: the exiled Nazi who lived in Argentina would have returned if he could have, and the fire that burned out only did so because there was no unfortunate gust of wind.

Most of us feel the Nazi official and the unlucky camper are culpable for what they did: they deserve to be blamed for their acts and the death and destruction they caused. But since what they did was only possible because of circumstances beyond their control (being in Nazi Germany, an unfortunate gust of wind), it seems that we should say that the Nazi official and the unlucky camper are not culpable for what they did, or at least are no more culpable than their more fortunate counterparts. This result seems to destroy our grounds for ascribing moral responsibility to agents for their acts. Nagel’s conclusion is that our moral intuitions are paradoxical, so when the condition of control is consistently applied, it threatens to undermine our entire program of moral assessment. 81

‘If the condition of control [that people cannot be morally assessed for what is due to factors not under their control] is consistently applied, it threatens to erode most of the moral assessments we find it natural to make. The things for which people are morally judged are determined in more ways that we at first realize by what is beyond their control. And when the seemingly natural requirement of fault or responsibility is applied in light of these facts, it leaves few pre-reflective moral judgments intact.... The erosion of moral judgment emerges not as the absurd consequence of an over-simple theory, but as a natural consequence of the ordinary idea of moral assessment, when it is applied in view of a more complete and precise account of the facts.’ (Nagel, p. 59) 81

2. Circumstantial Moral Luck

Circumstantial luck, or luck in which one’s circumstances play a role in what one does, seems to provide the strongest evidence for the claim that our moral notions are

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81 My focus in this paper will be on Nagel’s claim, as it is better developed and so more destructive than William’s conclusions, and his conclusions are adopted or sanctioned by advocates of the problem of moral luck.
paradoxical. Circumstantial luck is demonstrated by the case of the two Nazis: it seems as though the only relevant difference between them is a matter of circumstances beyond their control. The Nazi official did what he did because of the situation in Germany at the time, and the exiled Nazi lived quietly abroad because he couldn’t get home. These events—the situation in Germany, and the absence of a way home—are clearly not under the control of the agents in our story. So it seems as though the Nazi official can be assessed no more harshly than the exiled Nazi.

But although we might accept this when we examine the details of the case the way I’ve presented them, when we step back and think about the atrocities committed by the Nazi official we immediately revert to our original position that the Nazi official is to be regarded as evil and viewed with far more horror or disgust than the exiled Nazi. Surely the Nazi official is more culpable than the exiled Nazi—for the exiled Nazi didn’t do anything. Nagel takes this tension between our intuitions as his evidence for the claim that both the view that there is no moral difference between the two Germans and the view that there is a moral difference are implied by our moral intuitions.

To understand the argument, we must first distinguish between our moral assessments based upon a person’s character and moral assessments based upon a person’s acts. We make moral assessments based on both, and, as I shall argue, not merely because we think a person’s acts give us insight into a person’s character before she performed the act. A person can be morally assessed for performing an act itself. In the discussion that follows, it is stipulated that the agents being assessed have the same character, at least before the relevant acts have been performed. Thus, the debate will center on the legitimacy of making moral assessments of agents based upon the acts that they perform.

Nagel calls our intuition that factors outside our control shouldn’t matter the ‘condition of control’.
**Condition of Control:** People cannot be morally assessed for what is due to factors beyond their control. (Nagel, p. 58)

Nagel’s claim is that the condition of control conflicts with the way we make moral assessments of agents for their acts.

If Nagel's condition of control means just that our moral assessments of agents should be unaffected by acts over which agents have no control whatsoever then we should accept it. But only if we thought that the

**Condition of Partial Control:** People cannot be morally assessed for what is due to factors partly beyond their control

was a central moral intuition would we judge that the Nazi official should receive no more blame for his acts than we originally assigned to the exiled Nazi. This is because one very important thing was under the Nazi official’s control: his *choice* to perform the atrocities when faced with the opportunity to do so. But of course, the condition of partial control is not one sanctioned by our moral intuitions. We often morally assess agents for what they cause when what they cause is only partly beyond their control, or only partly under their control. Especially if the part under their control involves the agent’s choice to act—we regard this part as particularly salient.\(^{82}\)

Reinterpreting the condition so as to explicitly involve causal responsibility, the causal counterpart of our (original) condition of control would read: people cannot be morally assessed for causing an event if they were not among the causes of it.\(^{83}\) (We also absolve people of moral responsibility for an event if they were not voluntarily or in some cases knowingly among the causes of it.) This reinterpretation so as to include

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\(^{82}\)Often the choice to act is identified with the act itself. I reject this identification.

\(^{83}\)With some important exceptions which will be discussed at the end of this paper.
causal responsibility is a step in the right direction. (Ultimately, we’ll need to modify the connection between causation and moral responsibility to involve causal ancestry instead of causal responsibility, but we can leave that aside for now.)

We accept the unlimited condition of control because we accept that a person cannot be held morally responsible for an act or other event they did not cause or for an act or other event that they caused involuntarily or through justifiable ignorance. However, we would reject a condition of partial control that said that people cannot be morally assessed for causing an event unless their act was the only event that caused or influenced the effect.

So the condition of control in our case of the two Nazis is not violated, since the Nazi official has enough control over the event to be morally responsible for it: if he had not chosen to act, the effect would not have occurred. A causal diagram of the case can make this clear:  

\[ \text{E (situation in WWII Germany)} \]

\[ \text{A2 (atrocities committed)} \]

\[ \text{A1 (choice of Nazi official to perform atrocities)} \]

It’s true that E is not under the agent’s control. But A1 and E together cause A2. The agent ‘controls’ A2 in the sense that A1 is among the causes of A2 (and so the occurrence of A1 is necessary for the occurrence of A2), and the agent decides to

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84 These diagrams are known as neuron diagrams. The filled in circles represent events that occur (‘neurons that fire’), and the arrows represent causation. So E’s occurrence causes A2’s occurrence if a filled in circle labeled E is connected by a forward arrow to a filled in circle labeled A2.

85 Actually, as argued in chapter two of this thesis, I think that aspects, or properties of particular events, not events simpliciter are the causal relata. but since I think we often speak as though events were the causal relata when we really mean aspects of those events are the relata, I’ll stick with the common parlance here.
perform A1, thus deciding to bring about A2, so there is no conflict with the condition of control.

Assessing the problem from an explicitly causal point of view clarifies the issues. But leaving the discussion here would be oversimplifying Nagel’s case. Nagel’s argument makes the plausible point that our moral assessments are evaluations of people based on the way they perform on moral tests. (‘Moral Luck’, 65) The paradox arises when we recognize that the tests people must face are determined by factors not entirely under their control (often they are determined by factors not under anybody’s control). So two people might be equally bad, but receive different moral assessments simply because they were lucky or unlucky with respect to the tests they had to face. In our example, the Nazi official is judged harshly for the acts he performed as the result of the tests he took, but the exiled Nazi was never even put to the test. Nagel would argue that if we assume that the Nazi official would have lived as unobtrusively as the exiled Nazi if he had never been faced with the moral tests he had to take, the fact that the Nazi official had to face the test and failed it does not seem to justify the harsher moral assessment that he receives. The moral for Nagel would be that although we give different moral assessments to the two men because of the differences in their acts that result from the differences in the tests they faced, the fact that they faced different tests was not under their control. Because their facing these tests was not under their control, the condition of control implies that we should morally assess the two men equally. Therefore, our moral intuitions are in conflict.

But even when we recast the case I think it’s wrong to say that in order to be consistent, if we accept the condition of control, we must accept that there is no moral difference between the two Germans. The reason we can accept the condition of control yet assess the two Germans differently rests on the point made earlier: we can ascribe blame to the Nazi official simply for choosing to perform the atrocities in the Nazi death camp, even if the opportunity to choose was not under his control. Making the choice is
sufficient for the ascription of blame. We can argue that the difference between the moral assessments of the Nazi official and the exiled Nazi rests on the fact that an evil action was (freely) performed by the Nazi official that was not performed by the exiled Nazi.\textsuperscript{86}

It’s true that whether or not the agent faces the test is a matter of luck, but focusing on this fact skews the focus of the case. For it isn’t a matter of luck whether, once the agent does face the test, he chooses to perform the act. And it is the fact that the agent freely chose to perform the act when faced with the test which we use when making our harsher moral assessment of the Nazi official, not the fact that he had to face a test in the first place.\textsuperscript{87} The brute fact that the Nazi official freely performed the evil acts is sufficient for our moral disapprobation, and the fact that he chose to do it shows that we do not violate the condition of control in morally assessing him for those acts.\textsuperscript{88}

So there is a component of our moral scheme that, when overlooked, gives rise to the appearance of paradox. It is true that part of our moral assessment of a person is based upon our assessment of his character. But there is another part of our moral

\textsuperscript{86}Now, note that there is no issue of whether we are unsure about whether or not the exiled German would have done the evil acts—we assume that he would have. And so our moral assessment of him is quite harsh already. Moreover, we think that, at least before the Nazi did what he did, that the exiled German is just as bad a person as the Nazi. They are both thoroughly evil persons. Nevertheless, we regard the Nazi with more horror and disgust than the exiled German, and he is seen as culpable or morally assessable for things that the exiled German is not.

\textsuperscript{87}So it is wrong to say that our moral intuitions imply that we cannot judge agents for performing badly on moral tests because the tests that agents face are not applied equally or across the board. For moral assessments that involve judgments of agents for their acts, unlike for assessments based solely on character, we base our judgments on the acts actually performed, not on the truth or falsity of counterfactuals about agents’ acts.

\textsuperscript{88}The difference is analogous to the compatibilist point about ‘could have done otherwise’: it’s true that a determined agent could not have acted other than how he was determined to act, but it isn’t true that the agent could not have done otherwise in the sense that the agent was physically unable to do otherwise, where ‘physically unable’ means that even an agent who desired to perform an act A could not perform it, e.g., she could not move her limbs to perform A, or lacks the physical strength to perform A, etc. Moreover, just because an agent was determined in some sense to perform a bad act does not mean we cannot identify an act as bad and describe someone as a bad person for having committed it.

My claim that performing a bad act is morally bad in and of itself has some affinities to this claim (although here we are assuming we have free will): it’s true that others might just have easily performed the bad act. But this does not and should not prevent us from ascribing responsibility to the person who actually did perform it: after all, the person who performed the bad act actually chose, and chose freely (under our assumption that we are free in the relevant sense), to perform the act, and we can ascribe responsibility to a person for having performed a bad act \textit{simpliciter}. 89
assessment, one that can also affect our reactive attitudes, based on what agents do. Of course the parts are related: we use information about what an agent does to make conjectures about her character. But this does not mean that our assessment of an agent must be confined to her character. Both components of our moral assessment must be recognized in order for our moral practices to make sense.

But the skeptic might object that I am making an invidious distinction between the actual and the counterfactual. (In other words, that in general, we are not justified in using facts about acts that actually occurred but not facts about acts that would have occurred in making moral assessments of agents.) It’s true that the Nazi official actually performed the evil acts, but since the exiled Nazi certainly would have if he could have, where’s the difference between the two? They might argue that it’s all very well for me to claim that the actual outweighs the counterfactual (that what was actually done counts in our moral assessment, as opposed to what would have been done), but such a distinction between the actual and the counterfactual in moral assessments is unjustified since it results from differences in the world rather than in the agents themselves.

The claim amounts to the argument that acts that are actually performed should have no special role in our moral assessments. Instead, the skeptic would claim, our judgments of agents should be based solely on the character of agents rather than on the acts those agents performed. But even if we accepted this claim, we could have a morally justifiable reason for emphasizing the actual over the counterfactual, and thus for taking acts the agent actually performed into account in our assessment. What could justify our

89 So I don’t think that Judith Jarvis Thomson’s claim in ‘Morality and Bad Luck’, Metaphilosophy 20, reprinted in Statman’s Moral Luck, 195-215, that the problem of moral luck disappears when we talk of ‘acts being to a person’s discredit’ is correct. When an act is ‘to a person’s discredit’, the act is relevant to our assessment of that person’s character. But of course the problem of moral luck, i.e., the asymmetry of the praise or blame assigned to agents, seems to disappear when we assume that the praise and blame ascribed to the agents of Nagel’s examples is ascribed only on the basis of assessments of their characters, since by definition their characters are the same. And if their characters are the same, and if praising and blaming are merely character assessments, then of course the agents should receive the same praise or blame. The whole point of the moral luck dilemma is that there is another component in addition to assessments of an agent’s character that feeds into our moral assessments: assessments of agents for performing particular acts.
ascription of praise or blame to agents for actually choosing to perform a good or bad act, and our withholding of praise or blame from those who would have chosen to perform the act but did not have the opportunity to do so, is that performing a good or bad act has an impact on one’s *later* moral character. Our positive and negative moral assessments, based as they are on the acts actually performed rather than on acts that would have been performed if the agent had had the chance, could presuppose that the acts people perform, in general, *do* have an impact on their characters.

Why this matters is as follows: in cases of circumstantial luck that generate seemingly problematic results, it is important that the two agents start out with the same character. Otherwise, we might ascribe the different moral assessments of the agents that we are inclined to make to differences in their moral character rather than differences in their acts. Now, the two Nazis start out with the same character. But the moral assessments of the Nazis are not made *before* the Nazi in Germany has faced his test, but *afterwards*. So we are comparing the character of the Nazi in Germany after he has faced (and failed) a moral test to the character of the Nazi in Argentina before he faced the same moral test (since he never faces the test at all.) But why think the Nazi who had the experience of failing the moral test still has the same moral character as he did before he took the test? Indeed, performing acts such as murder or torture are just the sort of acts that we think make humans depraved. And if a murderer, as the result of his acts, is jailed, giving him time to reflect deeply and reform, then we are inclined to improve our moral assessment of him. But if the Nazi in Germany no longer has the same moral character as the Nazi in Argentina, then of course our moral assessment of him will be different than the assessment of the Nazi in Argentina.

Imagine two people who start out with exactly the same bad characters. Now assume that one person has the opportunity to perform several brutal murders and the

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90 In addition to thinking the performance of the act is good or bad in and of itself.
other does not: the first person performs the murders while the second sits at home twiddling his thumbs. I think there is good reason to think that after the murders have been committed, the person who murdered, as the result of the horrific experiences that he freely chose to experience, has a worse character than the one who twiddled. The murderer is depraved: he looked into his victims’ eyes and saw their anguish as he brutally stabbed them. The homebody, as we assumed from the start, is an evil man, but his character at the time $t$ after the twiddling and the murdering is different than the character of the murderer (at time $t$. ) The two men may have started out equally bad, but the acts of the murderer changed him for the worse.

So I think our moral assessment of the exiled Nazi as better than the Nazi official because the exiled Nazi did not commit war crimes could be seen, even under the view that only character mattered, as justified by assumptions about the exiled Nazi’s character after the war. Perhaps we implicitly assume that the acts the Nazi official performed made him into a worse person than the person he was at the very start of the war, whereas we think the exiled Nazi’s acts did not make him into a worse person. If the supposition that an agent is changed for better or for worse by his or her acts is correct, then even if we think that moral assessments should be based solely on character, we are justified in making moral distinctions between those that actually did perform some act and those that merely would have performed that act, if they had had the chance, but did not actually perform it.

In fact, in a different context, Nagel himself points out that we assign negative weight to an agent’s being in a state of mind which involves the agent’s desiring to produce evil.\(^\text{91}\) (Nagel does not make the connection to the problem of moral luck, however.) Nagel is puzzled as to why we assign moral weight to an agent’s being in such a state—but I think it may be because we feel it influences the agent’s character.

\(^{91}\)GET REF: Tanner lectures on Human Values?
Alternatively, perhaps an agent's being in such a state is intrinsically bad in itself. If so, then we have a different reason for factoring the actual and not the counterfactual into our moral assessments of the agent. We may assume that, if the experience of performing an act involves an intrinsically bad state of mind, i.e., one directed towards producing evil, there is a moral cost to the agent’s character as the result of performing the act. If the experience of performing the act involves a morally good state of mind, i.e., one directed towards producing good, there may be a moral benefit to the agent’s character as the result of performing the act.

In any case, we don't need to hold that acts always change an agent's character (although I think this is a plausible assumption to make); we just need to hold that they can sometimes change an agent's character. For the skeptic who defends the claim that acts performed are not relevant to moral assessment must assume that the performance of these acts could not affect the agent's character. (And what justifies the assumption that performing a moral test has no impact on one’s character?) Otherwise, it is at least sometimes legitimate for us to take the actual and not the counterfactual into account when assessing agents.

And if it is reasonable to think that acts the agent actually performed can at least sometimes figure indirectly in character assessments, then the normative claim that the actual (actual acts but not counterfactual acts) should not figure into our moral assessments is wrong. If actual acts performed can figure into our moral assessments (even if it is only because of the affect they have on an agent's character), then the blanket rejection of the distinction between the actual and the counterfactual that the skeptic relies on is unjustified. And if the blanket rejection is unjustified, then the skeptic cannot use it against those who would make sense of the role of circumstantial moral luck in our moral assessments by distinguishing the actual from the counterfactual.
3. Resultant Moral Luck:

The claim that our moral outlook is mired in paradox received much of its plausibility from examples of circumstantial luck. But there is another even more disturbing kind of case that seems to support the idea of paradox: cases involving resultant luck. The problem of resultant luck is clearest when we compare two agents whose subjective experiences and physical performances are exactly alike, but because of events that occur after the agent is no longer physically involved, one agent causes something the other does not. In such a case, the agents’ characters are again stipulated to be the same before the act is performed; but this time, their acts, intrinsically defined, are the same also. Unlike in our case of circumstantial luck, the only difference between the agents is a difference between the extrinsic properties of their acts (i.e., in what the acts caused.)

Our case of the fortunate and unfortunate camper is such a comparison. The fortunate camper’s fire burns out, while the unfortunate camper’s fire is fed by a gust of wind and causes a massive loss of life and property. Both of the campers’ intrinsic acts were the same (both built a campfire and negligently left the scene without making sure the fire was out). The difference between the two cases is purely extrinsic: because of events beyond the campers’ control, one fire caused no damage while one caused huge damage, and we censure the unfortunate camper severely because of what he caused.

The main difference between resultant luck cases and circumstantial luck cases is easily shown with a causal diagram of the unfortunate camper:

E1 (cheery campfire)

A2 (fire is left smoldering)  E2 (fire smolders)  E4 (forest fire)

E3 (gust of wind)
A1 (desire to leave)

A2 is the negligent leaving of the scene of the campfire, E2 is the smoldering of the campfire after the camper has left, E3 is the gust of wind, and E4 is the forest fire. The relevant event here is E3: here, the agent’s intrinsic act is complete after A2, but A2 is among the causes of the series of events beginning with E2. E3 is an event that together with E2 is necessary for E4, but the agent had no control over E3 (the gust of wind).

Indeed, when we present the case this way it does seem as though the camper was merely the victim of bad luck, and that in some important sense he did no more than the fortunate camper. It seems as though the negative moral judgment we pass on the unfortunate camper for the destruction he caused is indeed a violation of our condition of control, since the destruction was merely the result of an untoward gust of wind. Of course, as with the fortunate camper, we can blame him for performing a negligent action, but we cannot assess him more severely without being inconsistent or rejecting our condition of control.

Or so it might seem. But return to our causal diagram. It’s true that the agent has no control over the gust of wind. It’s also true that after she has left the scene, the agent no longer has control over the situation: she can no longer influence the consequences, as her physical role in the drama is over. In this sense, the agent has no control. But in another very important sense, the agent controls the entire causal chain, since only by her choice to leave the fire smoldering can the chain originate and propagate the causal influence to the forest fire. The agent has control of the fire's smoldering (E2) and the forest fire in the sense that if she had not chosen to act, neither of those events would have occurred (in the closest possible world). The agent chooses to act or not to act, and so chooses whether or not to initiate the causal chain. By choosing to act she chooses to make herself subject to luck.
But once we see this we can recognize that in this sense the agent has partial control over whether or not the smoldering and the forest fire occur. She may not think the forest fire will occur (perhaps because she does not suspect the gust of wind will occur) but she governs the possibility of the forest fire occurring by governing whether or not she chooses to leave the fire smoldering. So the condition of control is not violated, and since we have seen that the condition of partial control is not certified by our moral intuitions, we need not worry about the possibility of inconsistency.

Now, although we can avoid the prospect of paradox, we are still faced with a (seemingly) serious problem: even if the fact that luck plays a role in moral assessments does not violate the condition of control, is it justified by our moral precepts? Given our moral scheme, how can we justifiably make moral distinctions between agents based on their acts when these acts are intrinsically the same, differing only their extrinsic properties, i.e. in what their actions have caused? Even if one thinks, as I do, that it is appropriate to morally assess an agent simply for having performed a bad act, the component of the act that we use in our moral assessment is its intrinsic component, and this component was the same for both campers in our case of resultant luck.

But there is another aspect of our moral scheme that we must take into account when exploring why we assess the two campers differently. Our moral scheme allows for distinctions between agents who are affected by moral luck because it makes room for the notion of moral risk. As agents, when we act, we accept a risk that involves the fact that we can be held responsible for the consequences of that act, whatever they might be. When we evaluate cases of resultant luck, we assume that the agent has (implicitly) assented to being evaluated in this manner by choosing to perform an act that the agent knew or should (or could) have known would initiate a particular causal chain. Only if an agent is justifiably ignorant of [or has some other (justifiable) epistemic excuse for] the possible consequences of her act are we willing to absolve her of moral responsibility. Even then the degree to which she is absolved depends on the degree of ignorance which
is permissible (or the reasonableness of the excuse) under the circumstances of the case.

The claim here is not that our moral assessments are not often based upon the intrinsic worth of the act performed, but that sometimes another factor, extrinsic worth, is given weight in our assessment. When we have a reasonable range of alternative acts we could perform (including not acting at all), then when we choose to perform one of these particular acts we are choosing an act that has a particular extrinsic worth. This factor is sanctioned by custom or practice—it is a commonplace that agents are held responsible for the consequences of their acts unless absolvable on special grounds—and by performing the acts that we know could lead to these consequences we implicitly assent to this practice.

We accept the risk, when we perform some action, that the consequences of that act could be bad, and that we could be held morally responsible for them. This is because we recognize and as actors we implicitly accept that moral responsibility can be transmitted down a causal chain.\(^{93}\) If a person is morally responsible for some event E2, and if E2 causes E4, then that person can be held morally responsible for E4. Agents (with a suitable range of available alternatives) who take moral risks and who are assessed by the results of such risks do not violate the condition of control, for it is their choice whether or not to take the risk in the first place. If an agent accepts the risk before he performs the act, then we are justified in assessing him for the consequences of his acts.

To make this clearer, we can examine the types of resultant luck cases often discussed in the literature: cases involving negligence and uncertainty. In a case

\(^{92}\)This important caveat about absolving agents of moral responsibility under certain epistemic conditions is complex and I won’t be able to do full justice to it in this paper. For the most part I will assume that agents are not ignorant or at least are not justifiably so, but in all of these cases, the role of intent and of ignorance, justifiable or not, complicates matters. Investigating more complicated cases involving ignorance or lack of intent should not gerrymander the lines significantly. In what follows, I will take for granted that in many cases there can exist epistemic conditions which are sufficient to absolve an agent of moral responsibility.

\(^{93}\)How far can moral responsibility be transmitted down a chain? It's not clear: not forever, but usually within the foreseeable future. Epistemic constraints apply.
involving negligence, the agent performs some act that is high risk in the sense that there is a moderately high chance (and the agent recognizes or should have recognized this chance) that the consequences of that act will be bad and that the badness may be a matter of degree. In such cases, the agent does not intend for the bad consequences to occur, but is not justifiably ignorant of the possibility that they might occur. The agent takes a risk when she performs the act, a risk that she will be held responsible for the consequences which may follow from it. Again, a moral risk is or should be recognized and accepted by the agent who performs the act and by those who make the moral assessment. Our case of the campers is a case of negligence.

In a case where the outcome is uncertain, such as an act that may or may not overthrow a government, causing death and destruction if unsuccessful but freedom and happiness if successful, the agent takes a risk when she performs the act, knowing that she will be morally responsible for the results, whatever they may be. The case involves a risk in the sense that the agent does not know what she will be held morally responsible for when she performs the act, yet she is also not justifiably ignorant of the different possible outcomes. I suggest that this moral risk is also recognized and accepted by the agent who performs the act and by those who make the moral assessment.

But there are variants of this sort of case where the notion of moral risk seems inappropriate, at least at first glance. These cases involve agents who make a wholehearted attempt to cause some consequence where the hoped-for outcome is clearly recognized and desired. Imagine an agent shooting someone at close range. In this case, the agent shooting the gun wants to kill the victim, and does everything in his power to ensure the relatively likely outcome of the death of the victim. Much to his (and the victim’s) surprise, a bird flies into the path of the bullet and saves the victim’s life. In a parallel case, an agent shoots and kills his victim without interference. In this sort of case,

94She is morally responsible for the results even if she did not intend for the results to be what they were.
the idea that the agent takes a moral risk, and so we are justified in assessing the
successful killer more harshly than the would-be murderer, is less clear. I think some
people would say that, upon reflection, the would-be murderer deserves as much blame
as the successful killer. Our gut reaction is to censure the successful killer more strongly,
but perhaps this is a mistake.95

Perhaps our intuitions in such cases can be clarified by reminding ourselves of the
distinction we drew at the start; the distinction between blaming someone for having a
bad character and blaming someone for their acts, and the parallel distinction between
intrinsic and extrinsic properties of acts. Sometimes when we make a negative moral
assessment or assign blame to a person, it’s because we think she is a bad person: she has
a bad moral character. When we make moral assessments of the character of a person,
based upon her acts, we draw on the intrinsic aspects of her acts: the aspects of her acts
that depend on her intentions, knowledge, etc. (Including, sometimes, the evidence we
get from counterfactuals about what she would have done under different possible
circumstances.) But sometimes our moral assessments and reactive attitudes are based on
something else: we blame a person for having done something bad, something she should
not have done and which caused something bad. This sort of blame can depend to some
extent on extrinsic factors, factors that do not depend on the person’s epistemic attitudes
but on external facts about the world. When we blame in this way, our reactive attitudes
towards a person come apart from our opinion of the sort of person one is.

In the case of the point blank shooting: the person whose bullet was not
intercepted by the bird is no worse than the person whose bullet was. In this sense, he
deserves the same amount of censure as his counterpart, since he has the same character.
But in another sense, he does not deserve the same amount of censure: the person who

95I am indebted to insights gleaned from David Lewis’s ‘The Punishment that Leaves Something to
actually killed his victim deserves blame for causing the death of another—in addition to deserving censure for the sort of person he is, the killer deserves a kind of blame based on what he caused.

The phrase ‘moral risk’ might seem inappropriate in the case of the bird and the point-blank shooting because we normally use the word ‘risk’ in cases where something valuable (such as praise) could be lost if the act did not do what it was intended to do. Since in this case (at least how I've described it) only blame is lost if the shooting does not accomplish its objective, the idea that the agent is taking a moral risk when he shoots seems a bit odd, since what he is ‘risking’, morally speaking, is that he will not receive the blame that he would receive by killing his victim. (And who wants to receive blame?)

In a symmetrical case involving praise, the idea that someone takes a moral risk when they act is easier to grasp. Consider a case of an agent’s saving a friend’s life by rescuing her from a burning building. When the agent makes the attempt to rescue the friend from the burning building, he takes the risk that his action will not be successful (perhaps as he throws his friend a rope, a bird flies by, knocking the rope into the flames and causing it to burn up). If he is unsuccessful, he will not receive the praise that he should receive if the attempt was successful. I think it makes good sense to say that the friend who succeeds deserves more praise than the (good-intentioned) friend who doesn’t.

The agent, when he acts, risks not getting some praise because there is some risk the attempt will not succeed: he risks not getting the praise for the extrinsic aspects of his act. We can think of the good-intentioned friend who does everything in his power to save his friend as indirectly seeking to be praiseworthy in the sense that by seeking to save her he is seeking to do something morally right. He is praiseworthy to some extent merely for making the attempt—but not as praiseworthy as if he succeeds. If he succeeds, he gets the praise for both the intrinsic and the extrinsic facts of the case: for being a good person and for saving his friend. If he fails, he gets praise only for the intrinsic fact
of being a good person, i.e., for trying his best, being brave and good-intentioned, etc.; information we gleaned from the intrinsic properties of his act.

Likewise, when the killer does everything in his power to shoot his victim, we can think of him as indirectly seeking to be blameworthy in the sense that he is seeking to do something morally wrong. He is blameworthy merely for making the attempt—but not as blameworthy as if he succeeds. If he succeeds, he gets the blame for both the intrinsic and the extrinsic facts of the case: for being a bad person and for killing the victim. If he fails, he gets blame only for the intrinsic fact of being a bad person, i.e., for trying his best to kill someone, for being evil, etc.\(^\text{96}\)

The fact that there is a real difference between the acts committed in the cases where the attempt succeeds and the attempt fails bolsters the case for a difference in moral assessment. In the cases where the attempt succeeds, so the friend is saved or the victim is killed, the acts performed by the agents are a rescue and a killing, respectively. But in the failed attempts, the acts performed are a throwing of a rope and a shooting. The acts are different, albeit extrinsically, but the difference between the acts performed by the agents results in a difference in the praise or blame they deserve. The risk incurred by the transmittal of moral responsibility down a causal chain is related to the fact that our acts are, to some extent, determined by extrinsic properties of the acts, i.e., by what they cause\(^\text{97}\). And there is a connection here with circumstantial luck: again, the acts performed by the agents, extrinsically defined, are different, just as in the cases of circumstantial luck. And it is the measure of control that the agents have over these acts, coupled with the difference between the acts performed, that justifies our different moral assessments.

\(^{96}\)I think the combination of the blame we give to the unsuccessful killer for being a bad person, combined with our reactive attitudes such as anger and disgust with the would be killer for trying to kill someone, adequately accounts for our moral feelings towards him.

\(^{97}\)Speaking more precisely, I should say that the risk incurred by the transmittal of moral responsibility down a causal chain is related to the fact that our acts are, to some extent, determined by extrinsic properties of the acts, i.e., by what they are causal ancestors of. But this will be dealt with in detail, below.
In sum, I think the problem of moral luck is resolvable once we see how to make sense of the way we make causal and moral assessments of responsibility. Now that we’ve analyzed our moral scheme through the lens of moral luck, I’d like to focus on what we’ve learned from our analysis. We’ve learned that:

A. If $X$ freely performs a bad action $A$, she can be assessed as morally worse than $Y$, even though $Y$ (who has the same character as $X$ before $X$ performs $A$), would have performed $A$ if he’d had the chance. Even though an agent’s circumstances might be entirely beyond her control, what she does as the result of those circumstances is not entirely beyond her control, and doesn’t even purport to apply to the ‘condition of control’.

B. Our moral assessment of $X$ for performing $A$ can involve our assessment of the moral cost or moral benefit of performing $A$. If the experience of performing $A$ involves a morally bad state of mind—one directed towards producing evil—there may be a moral cost to the agent’s character as the result of performing $A$. If the experience of performing $A$ involves a morally good state of mind—one directed towards producing good—there may be a moral benefit to the agent’s character as the result of performing $A$. The damage to or improvement of the agent’s character as a result of the acts performed can figure into our moral assessments of the agent.

C. Moral responsibility can piggyback on causal responsibility. If $X$ is morally responsible for $A$ing, and $X$’s $A$ing causes $E1$, then $X$ can be morally responsible for $E1$’s occurring. And so on down the line: if $E1$ causes $E2$, then $X$ can be morally responsible for $E2$. The piggybacking is restricted: we can absolve $X$ of her moral responsibility under certain epistemic conditions.
D. As agents, we take moral risks when we act. Because moral responsibility can piggyback down a causal chain, agents can be held morally responsible for events in a causal chain long after their act has been performed. Because piggybacking is restricted, moral assessment is restricted: we can absolve an agent of her moral responsibility for an event or events in a causal chain if her risk was taken under certain epistemic conditions.

Now, I’d like to return to our case of ‘All the President’s Men’, and look at how these four theses (A-D) can help us to explicate this case and two related, more familiar cases. What we’ll see in these cases is that whether or not an agent is morally lucky (or unlucky) makes no difference to our ascriptions of moral responsibility. This is not because there is no role for luck in our moral assessments, or because we should only make assessments based on an agent’s character and not her acts. Rather, as we’ve learned from our investigation of the way moral responsibility is ascribed in cases involving moral luck, moral responsibility piggybacks down a causal chain. The fact that the sort of moral luck where external factors that are not to do with the agents’ acts themselves does not affect our commonsense judgments about these cases bolsters the thesis that luck is consistent with our moral scheme.

Recall scenario 2:

Scenario 2: Secret Service agents A and B are guarding the President. Suddenly, A and B see the glint of a gun barrel in the crowd (and see a man pull the trigger). Simultaneously, they leap in front of the President. A takes the bullet in his own chest.

The case is disturbing since the presence of agent B seems to call into question the legitimacy of assigning more praise to A than B. The causal structure of the case is

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98The familiar examples are versions of Williams’s famous cases. [REFp. 96]
worth investigating: A’s jumping causes him to take the bullet, A’s taking the bullet causes the absence of the bullet at time \( t_1 \), and the bullet’s absence at some time shortly after \( t_1 \) is among the causes of the President remaining alive. When we know this much, we are inclined to say that A should receive praise for saving the President’s life (i.e., for preventing the bullet from hitting the President and causing lethal damage). But when we find out that there is a backup preventer, namely the event of B’s jumping, which causes B to be in a region of spacetime where he would have taken the bullet if it had continued on its trajectory, would have prevented the President’s death anyway, it seems as though A no longer counts as a cause of the President remaining alive. Since B would have taken the bullet if A hadn’t, many would say that transitivity fails: A does not count as a cause of the President remaining alive. But if transitivity fails, defenders of the role of moral luck in moral assessment are left with a difficult puzzle: how to explain why A should receive more praise than B (or C?).\(^{99}\)

Fortunately, there is a story which can make sense of our desire to give A additional praise for his act, one which does not require us to accept the general moral rule that attempts are as bad (or as good) as successes. The story depends on a careful assessment of the details of the case. A’s taking the bullet causes the absence of the bullet at time \( t_1 \), and the bullet’s absence at some time shortly after \( t_1 \) is among the causes of the President remaining alive. Because B jumped in front of the President too, no matter how A jumped, the President would have remained alive, so A is not a cause of the President remaining alive. The presence of the backup preventer, agent B, makes transitivity fail—but this back-up preventer, agent B, never actually caused the bullet flying towards the President to be absent—it was A’s act that actually caused the bullet flying towards the

\(^{99}\) You might think that if transitivity fails that A should not receive more praise than B or C, since extrinsically speaking, their acts were the same. But this wouldn’t necessarily mean that you thought all such moral luck cases were like this: you could accept moral luck cases where transitivity held, but agree with those who reject moral luck in cases where transitivity failed. I take it that such a view would go against the commonsense view defended here: that A should receive more praise than B or C, and would require justification in view of the fact that the defender of common sense can justify her claim by holding that causal ancestry sans transitivity can account for the ascription of additional praise to A.
President to be absent. Even though, because of agent B, A did not technically cause the
President to remain alive, he caused the steps leading up to the President remaining alive,
and so participated somehow in making it the case that the President’s life was saved. A
participated in the sense that he was a causal part of the large, complex, and temporally
extended event of the President’s life being saved.

This notion of participation is vague, but we can turn to our conception of moral
responsibility to help clarify it. It isn’t that A gets more praise because A made a whole-
hearted attempt but failed to save the President because of an unexpected action by B.
(After all, B made a whole-hearted attempt too, and failed to save the President because
of an unexpected action by A!) Rather, A gets more praise because his moral
responsibility for the effect (the saving of the President’s life) was transmitted down the
causal chain which began with his taking the bullet—even though he was not causally
responsible, strictly speaking, for saving the President. Luck here makes no difference:
not because an attempt is as bad as a success, but because, at each step of the chain, A’s
moral responsibility piggybacks to the next event. Since A caused the bullet flying
towards the President to be absent at $t_1$, A is morally responsible for the absence of the
bullet at $t_1$. Since A is morally responsible for the absence of the bullet at $t_1$, and since the
absence of a bullet flying towards the President at $t_1$ caused the absence of the bullet
flying towards the President at $t_2$ ($t_2 > t_1$), A is morally responsible for the absence of a
bullet flying towards the President at $t_2$. Since the absence of the bullet flying towards the
President at $t_2$ caused the President to remain alive at $t_3$, A is morally responsible for the
President remaining alive at $t_3$ (so A is morally responsible in this context for saving the
President’s life.)

What I am arguing is that causal responsibility, strictly speaking, is not necessary
for moral responsibility: it would be necessary only under the assumption that causation
is always transitive. What is necessary for moral responsibility is a causal chain: a series
of events, causally linked, even if causation is intransitive. If an act is connected to an
effect by such a causal chain, it is a causal ancestor of the effect. Only if the causal relations in the chain are transitive is the act a cause of the effect. The assumption that causal responsibility is necessary for moral responsibility was founded on the piggybacking principle together with the assumption of transitivity. But the assumption of transitivity is not needed to make sense of moral responsibility; it’s just that it is usually taken as a given when we talk about causation. Although cases like ‘All the President’s Men’ may call into question the legitimacy of this assumption about the transitivity of causation, they do not jeopardize the coherency of our moral scheme.

Teasing out the distinctions between the kinds of causal responsibility needed for moral responsibility and the kind that isn’t can give us insight into some related moral issues. First, distinguish three ways in which moral responsibility might involve kinds of causal responsibility:

1. **moral responsibility in terms of causal dependence**: X is morally responsible for E only if E depends causally on X’s acts, i.e., if X had not acted, E would not have occurred, or would not have occurred in just the same way as it actually did. This sort of moral responsibility requires that X make some sort of difference to an effect E in order for X to be morally responsible for E and events caused by E.

2. **moral responsibility without dependence**: X is morally responsible for E only if, strictly speaking, E is caused by X’s acts. This sort of moral responsibility does not require X to make a difference to E. X may cause E directly, or cause E via a (transitive) chain of causes, but if X had not caused E, then E would have occurred, and occurred just as it actually did. Such cases often involve preempted causes.

3. **moral responsibility without (strict) causation**: X is morally responsible for E only if X is a causal ancestor of E: X causes an event which is connected by a (possibly

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100 By ‘strict causation’ or ‘causation, strictly speaking’ I mean causation where the causal relation is transitive.
intransitive) causal chain to E. Hence, X is morally responsible for E whether or not X (strictly speaking) causes E.

I’ve been arguing for (3): for moral responsibility without strict causation. Most people seem to assume that (1) captures our notion of moral responsibility. But this leaves (2) out in the cold—and I think it deserves to be brought into our analysis.

Consider the case of

Ted’s Dirty Hands:

Ted works in a chemical weapons plant, making bombs. Ted knows that, when at war, his country often bombs nonmilitary targets with lethal chemical weapons, and that when these bombs are dropped, many innocent civilians could die.

Ted is a low-level employee: he simply stands in an assembly line and shifts the bombs from the conveyor belt on which they are constructed to the belt on which they are armed. When Ted applied for the job, there were a hundred other applicants, and should Ted decide to quit, ten people would be instantly ready to perform his job. Moreover, there is a quality control officer who oversees Ted’s work: if Ted placed the bombs incorrectly or stopped the belt, etc., the officer would adjust the arrangement or restart the belt, etc. Ted, however, places the bombs correctly, so the officer never has to interfere.

When Ted’s country suddenly declares war, without provocation, on a neighboring country, the bombs made by the plant are dropped on an orphanage. Several children die. When confronted with this fact, Ted admits that it was a horrible thing, but denies that he has any moral responsibility, since ten others would have taken his place if he hadn’t done what he did, so the bombs would have been made and dropped anyway. The bombing would have occurred in just the same way if Ted hadn’t done what he did: he didn’t make any difference to what happened, so, he claims, he shouldn’t be held responsible. In effect, Ted is claiming that he is morally lucky—because of factors
outside of his control (the others that are willing and able to do his job) he should not be blamed for the deaths.

This case is an example where the agent, because he is a preempting cause, makes no difference to the effect. It is somewhat unclear whether transitivity holds in Ted’s case. Some, assuming that causation is transitive, would argue that Ted was among the causes of the bombs being dropped, since he helped make them, even though they would have been made anyway if he had not acted. But some (perhaps a defender of a simple counterfactual analysis) might argue differently: since what Ted did did make no difference to the final effect, Ted was not a cause of the deaths of the children. The ten people ready and willing to take Ted’s place are preempted causes, and since Ted as the preempting cause makes no difference to the effect, transitivity fails.

But even those who think that the causal chain between Ted and the deaths is transitive might try to absolve Ted of moral responsibility because we violate condition (1)—we have moral responsibility without dependence. This argument involves the claim that the causal contribution here is minimized, since no matter what Ted causes, the very same bombing happens anyway, and that this somehow reduces the moral responsibility that Ted has for the deaths. This last claim is often used to try and evade responsibility.

But our earlier analysis of the piggybacking of moral responsibility tells us that whether or not Ted has causal responsibility for the deaths via a transitive causal chain, or whether or not Ted affects the effect (the deaths), is irrelevant. What matters in this case is that there is an unbroken, even if intransitive, causal chain from Ted’s acts to the deaths of the children. Ted’s act of shifting the bombs to the conveyor belt that arms them causes them to be armed, the bombs’ being armed causes them to explode when dropped on the orphanage, which causes the deaths of the children. Because of this chain, even if we thought Ted was not a cause, strictly speaking, of the deaths of the children (since whatever he did the bombs would have been made and dropped, and would have killed the children in just the same way at just the same time), we think he has moral
responsibility for the deaths. Intuitively speaking, Ted has ‘blood on his hands’ because he is linked by a direct chain of events to the deaths, and thus shares in the moral responsibility for them. Even though, because of extra factors, Ted did not influence the bombing, he caused the steps leading up to the bombing, and so participated in making the bombing occur.

Now, Ted’s case seems pretty clear—most people want to ascribe moral responsibility to him. But apply the reasoning to arguments in favor of vegetarianism or lucrative investments. I might argue that so many people eat meat that my eating a little now makes no appreciable difference to assessments of overall demand for meat, so I’m not morally responsible for the deaths of the animals that will be killed to meet this assessment of demand. Or I might argue that it is morally OK for me to invest in the lucrative stocks of an environmentally destructive company since a hundred others would have bought this stock if they could have (assume there is a limited number of shares available.) Since I make no difference to the overall support of the company, I am not morally responsible for the environmental destruction caused by the company. The veiled claim here is that (1) is true—it is the claim that since I am not causally responsible for X, or (perhaps) since I have no discernible causal impact on X, I am not morally responsible for X. Many use arguments like these in order to avoid moral responsibility in similar cases. I think these arguments fail, and with good reason.

The case of Ted’s Dirty Hands shows us that (1) is false, and confirms (2). This result, together with the idea that transitivity does not change our verdict in Ted’s case and our investigation of ‘All the President’s Men’ gives us a fourth, and final version of the sort of causal responsibility that is needed for moral responsibility:

(4) **moral responsibility without (strict) causal dependence**: X is morally responsible for E only if X is a causal ancestor of E. X need not make any sort of difference to whether,
when or how an effect $E$ occurs in order for $X$ to be morally responsible for $E$ and events caused by $E$.

We’ve seen that cases that involve particular kinds of luck, luck that makes an agent into a preemiting cause, and luck that makes a causal chain intransitive, do not cause trouble for our assessments of moral responsibility. The first sort of luck occurs when an agent’s acts initiate a causal chain but there are several other agents who would have acted if they could have, and who would have brought about the very same effect. The second sort of luck occurs when a backup preventer is preempted (and according to some accounts of causation, when the first sort of luck occurs, i.e., when the very same effect would have been caused even if the agent had not acted.)

We’ve been able to use our analysis of these cases, together with our investigation of moral luck, to develop a precise account of the necessary causal conditions for an agent to have moral responsibility. But our discussion can also throw light on a different sort of moral puzzle, one that is not usually associated with discussion about luck and responsibility. Our recognition of the importance of performing certain acts in the context of circumstantial luck, together with our rejection of a concept of moral responsibility which requires causal dependence, will help us to better understand Bernard Williams’ case of

Jim and the Indians:

Jim visits a Peruvian village. When he arrives, to his surprise, he sees twenty Indians lined up against the wall with a group of soldiers pointing armed rifles at them. But before the execution occurs he is sighted and it is put off for a few minutes. After introductions occur, the captain of the soldiers (whose soldiers were the ones who were about to execute the innocent Indians) decides to honor Jim. He tells Jim that if he picks out one of the twenty Indians and shoots him, the rest will be allowed to go free in honor
of his visit. Jim has to decide: should he cause the death of one Indian (who was already going to die anyway) that he shoots himself, or should he cause the death of twenty by refusing the honor bestowed upon him (in effect he would do this by refusing to shoot anyone). Jim, after some agonizing, shoots an Indian.

Jim has to make a bad choice, whichever option he chooses, and it is bad luck that places him in this situation. The issue here is Jim’s moral dilemma: no matter what Jim does, he counts as a cause of the Indian’s death. If Jim chooses to shoot the Indian himself, he becomes a preempting cause of that Indian’s death, but if Jim chooses not to shoot the Indian, he is still a cause of the Indian’s death, by virtue of his role in the process leading up to it.

Now, whichever option Jim chooses, he will be a cause of the death of at least one Indian. However clear we think it is that Jim should choose to kill the Indian, we feel some difficulty in making this judgment—even if we are good consequentialists. The question is why we should feel that way—what moral justification is there for the difficulty of the choice?

In this case, I want to argue that our conclusions about moral responsibility with respect to moral luck can help us to understand why the decision that Jim should kill an Indian, morally speaking, is not an easy one. There are two reasons. To understand the first reason, note that the case involves moral responsibility without dependence. If Jim accepts the captain’s offer, nineteen of the Indians go free, but one must die anyway. For that one Indian, whatever Jim decides to do (to accept or decline the captain’s offer), there is no difference. He is shot to death anyway. The first point we must recognize is that, since (1) is false, even though Jim makes no difference to the situation of the Indian
who dies, he is still morally responsible for killing him.\textsuperscript{101} So the choice is not clear cut because Jim does not automatically avoid moral responsibility for the death of the Indian.

Second, there is a feature of the case that is often overlooked, but which is brought out by our earlier assessment of moral responsibility in the context of moral luck. Recall that we discovered that:

(B) Our moral assessment of \( X \) for performing \( A \) can involve our assessment of the moral cost or moral benefit of performing \( A \). If the experience of performing \( A \) involves a morally bad state of mind—one directed towards producing evil—there may be a moral cost to the agent’s character as the result of performing \( A \). If the experience of performing \( A \) involves a morally good state of mind—one directed towards producing good—there may be a moral benefit to the agent’s character as the result of performing \( A \). The damage to or improvement of the agent’s character as a result of the acts performed can figure into our moral assessments of the agent.

A further and ultimately more important reason why we don’t have a cut and dried decision in the case with Jim is because we attach a moral cost to the performance of an act of killing—the same reason why we feel that an agent who is the victim of circumstantial luck is still morally worse than the agent who is not. The victim of bad circumstantial luck is viewed as morally worse than the fortunate agent who was not faced with a choice because the unlucky agent freely choose to perform the act that led to the death (or whatever), and experienced a morally bad state of mind.\textsuperscript{102}

(Note: it is important to realize that, assuming that Jim did not know about and could not reasonable be expected to know about the possibility of getting into this

\textsuperscript{101} For simplicity’s sake, I will ignore the possible complication where we deny that transitivity holds because Jim is a preempting cause of the death of the Indian.

\textsuperscript{102} It might also be the case that the morally bad state of mind is intrinsically bad—bad for its own sake, regardless of its bad effects.
situation when he decided to visit the village, ultimately, we will absolve Jim of moral responsibility for his acts. But this does not mean that he doesn’t receive some wear and tear because of it—we might still think him a worse person after the ordeal, even if we forgive him for his acts. Moreover, Jim is morally responsible for making the right choice, whatever that choice may be. This contributes to the difficulty of the situation, as the choice is not clear-cut.)

Even if we think that Jim should perform the act of murdering the Indian, we view the fact that Jim has to consciously choose and perform a killing, a killing that he would (normally) be held morally responsible for, as one of the bad consequences of his choice. This is why, when we evaluate what Jim has to do, we do not simply balance the deaths that Jim would be a cause of against each other. On the one hand, Jim’s choice to not shoot an Indian himself would make him the cause of the deaths of twenty Indians, but Jim would not have to act after making the choice to shoot. On the other hand, Jim’s choice to shoot an Indian himself would make him the cause of the death of only one person, but he would still be (potentially) morally responsible for the death of that person, and moreover, he would have to freely choose to have the experience of murdering the person. So the consequences for Jim are not straightforward: he must balance being the cause of (and potentially morally responsible for) the deaths of twenty against performing a murder and being the cause of (and potentially morally responsible for) the death of one. The choice is not clear-cut: it isn’t just choosing that nineteen people should be saved, and this is why it is not automatic to select the right option.

We can see this more clearly when we change the case a little: imagine that the captain simply asks Jim if he would like to be honored, but this time, if Jim is honored, then one of the captain’s men will select one of the Indians and shoot him, while the rest will go free. This time, although Jim is still morally responsible for the death of one

103Note that we must index our evaluation: if Jim doesn’t murder the Indian someone else will: but we are evaluating the morally right thing for Jim to do, and so Jim’s actions are especially important.
person, it is much clearer from the start that Jim should accept the honor. Why? Because in this case the moral consequences for Jim are clearly better if he accepts the honor: he is a preempting cause of the death of one Indian instead of twenty, but has to perform no odious act.

Compare our changed case with another variant: to be honored, Jim has to select an Indian himself, but is to do it by picking a number between 1 and 20. The Indians have each been randomly assigned a number between 1 and 20 (but Jim doesn’t know which one has which number), and the number that Jim selects will determine the unlucky person to be executed. In this case, it is still clear that Jim should pick a number between 1 and 20, but the case gets a little harder. Why? Because Jim has to perform a morally unappealing act that he did not have to perform when he just accepted the honor and someone else selected and killed: this time, Jim has to select the person (although not knowing who he is selecting) who will be shot. If we up the ante even more, we can examine a case where Jim has to survey the Indians and pick one—and that one will be shot by the soldiers. Here again the case gets harder—perhaps almost as hard as when Jim has to kill the Indian himself. It gets harder because Jim has to perform a morally repugnant act—selecting a person to be executed—and we must balance this against the other consequences. We can continue to increase the case by degrees: the point should be clear by now. The physical acts and experiences that an agent has when she freely performs an act are part of what we use when we morally assess her.

Using the framework of the puzzles of moral luck, I’ve argued that an agent’s freely performed acts and experiences are part of what are evaluated when we make moral assessments of agents, that we take moral risks when we act, that moral responsibility can piggyback down a causal chain, and that causal ancestry, as opposed to (strict) causal responsibility, is what is causally necessary for moral responsibility. We can use these conclusions to reject the claim that our moral intuitions are deeply paradoxical, and to understand and explicate our moral views when confronted with
puzzling or complex cases. A careful evaluation of the causal responsibility that an agent has for her acts and of the relation of causal responsibility to moral responsibility can give us insight into the problems posed by the discussions of moral luck and related moral dilemmas.
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