

It's Difficult to Explain Away the Appearance That Causation Comes in Degrees: A Reply to Sartorio

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ABSTRACT *Does the relation of (actual) causation admit of degrees? Is it sensible to say, for example, that 'as compared to his consuming the light beer, Clement's consuming the moonshine was more a cause of his becoming drunk'? Suppose the answer is 'yes'. Suppose also that country A unjustifiably ignites a lethal war with country B, and you intuit that, while most combatants of A are liable to lethal counterattack, most non-combatants of A aren't similarly liable. Then, you might support your intuition by reasoning as follows. 'Perhaps most non-combatants of A causally contribute to A's unjust, lethal war effort. However, unlike most combatants of A, their causal contributions are not of such a degree that makes them liable to lethal counterattack'. Such reasoning is rejected by Carolina Sartorio. This is due to the recent revealing of a certain puzzle, one which suggests to Sartorio that causation does not come in degrees. Now, one motivation for Sartorio's reaction to the aforementioned puzzle is her thought that we can, for the most part, 'explain away' the 'illusion' that causation comes in degrees. I will argue that Sartorio insufficiently supports her foregoing thought. Using Sartorio's resources, we cannot (largely) 'explain away' the widespread appearance that causation comes in degrees.*

1. Introduction: A Puzzle for Those That Think Causation Comes in Degrees

Some relations appear to admit of degrees. Consider, for example, the admires relation. It seems sensible to say that 'Jimmy admires his father *a lot*', and that 'Jimmy admires his father *more than* he admires his boss'. Other relations, however, do not appear to admit of degrees. Consider, for example, the kills relation. In what sense might Jimmy kill an insect 'a lot'? Either Jimmy kills the insect, or he does not. Does the caused relation admit of degrees? Is it sensible to say, for example, that 'as compared to his consuming the light beer, Clement's consuming the moonshine was more a cause of his becoming drunk'? Recent literature has revealed a certain puzzle which suggests to some that the answer is 'no'.¹

The puzzle is generated in two stages. In stage one, it's observed that, if there are degrees of causation, then there are (at least) two general dimensions along which these degrees may be measured.² Suppose an event *C* caused a distinct event *E*. On the one hand, we may measure the degree to which *C* caused *E* along the dimension of necessity. That is, we might say that:

Necessity: the degree to which *C* caused *E* has to do with how close (the occurrence of) *C* came to being necessary for (the occurrence of) *E*.

On the other hand, we may measure the degree to which *C* caused *E* along the dimension of sufficiency. That is, we might say that:

Sufficiency: the degree to which *C* caused *E* has to do with how close (the occurrence of) *C* came to being (individually) sufficient for (the occurrence of) *E*.

One example of a causal-degree measure that's guided by *Necessity* is developed by Hana Chockler and Joseph Halpern.³ Roughly, for Chockler and Halpern, how close (the occurrence of) *C* came to being necessary for (the occurrence of) *E* has to do with the number of other causes of *E* the occurrences of which, when 'undone', make (the occurrence of) *E* counterfactually depend on (the occurrence of) *C*. One example of a measure that's guided by *Sufficiency* is developed by Alex Kaiserman.⁴ Suppose that *C* and *D* jointly caused *E* (and that *E* was not overdetermined). Roughly, for Kaiserman, how close (the occurrence of) *C* came to being (individually) sufficient for (the occurrence of) *E*, is given by the (objective) probability of *E*'s occurring conditional on *C*'s occurring, divided by the sum of the (objective) probability of *E*'s occurring conditional on *C*'s occurring, and the (objective) probability of *E*'s occurring conditional on *D*'s occurring. One example of a 'hybrid' measure that's guided by both *Necessity* and *Sufficiency* is developed by Thomas Icard, Jonathan Kominsky, and Joshua Knobe.⁵ I will not articulate their sophisticated measure here, besides noting that it neither gives *Necessity a priori* privilege over *Sufficiency*, nor vice versa. Nevertheless, we may conceive of 'hybrid' measures that are not so egalitarian. A 'hybrid' measure may, for example, be guided more by *Sufficiency*, as compared to *Necessity*.⁶

In stage two of the puzzle, we are to consider (something like) the following pair of cases.

Joint Causation: simultaneously, Dukat and Kruge shoot identical bullets at Victim. It takes both shootings to kill Victim (Victim will survive just one shooting). Victim is struck by both bullets and dies.

Symmetric Overdetermination: Dukat and Kruge shoot identical bullets at Victim. Victim is struck by both bullets simultaneously and dies. Victim would have died even if she had been struck by just one of the two bullets.⁷

We're then asked, 'in which case do [Dukat and Kruge] make a more substantial [causal] contribution [to Victim's death]?'⁸ Note that, on the one hand, measures guided by *Necessity* (and, presumably, *Necessity*-privileging 'hybrid' measures) are bound to answer 'in *Joint Causation*'. However you measure necessity, surely the shootings are more necessary for Victim's death in *Joint Causation* than they are for Victim's death in *Symmetric Overdetermination*. One way of understanding necessity is in terms of counterfactual dependence. That is, we might say that *C* is necessary for *E* if and only if it is true that 'if *C* hadn't occurred, then *E* wouldn't have occurred'. In *Joint Causation*, Victim's death counterfactually depends on both Dukat's shooting and Kruge's shooting. In *Symmetric Overdetermination*, Victim's death counterfactually depends on neither shooting.

On the other hand, measures guided by *Sufficiency* (and, presumably, *Sufficiency*-privileging 'hybrid' measures) are bound to say that Dukat and Kruge make a more substantial causal contribution to Victim's death in *Symmetric Overdetermination*. However you measure sufficiency, surely the shootings are more sufficient for Victim's death in *Symmetric Overdetermination* than they are for Victim's death in *Joint Causation*. After all, in *Symmetric Overdetermination*, it is stipulated that each shooting does enough to individually bring about Victim's death. In *Joint Causation*, the shootings are required, as it were, to 'join forces' with one another, so as to bring about Victim's death.

For those that think causation comes in degrees, the puzzle is how to react in scenarios where *Necessity* and *Sufficiency* deliver conflicting verdicts. Here are five potential reactions.

Pro-Necessity: say that measures guided by *Necessity*/*Necessity*-privileging 'hybrid' measures are correct.

Pro-Sufficiency: say that measures guided by *Sufficiency*/*Sufficiency*-privileging 'hybrid' measures are correct.

Egalitarian-Hybrid: adopt a 'hybrid' measure that treats *Necessity* and *Sufficiency* symmetrically.⁹

Incommensurability: say that *Necessity* and *Sufficiency* are incommensurable. That is, in scenarios where measures that are exclusively guided by, or which at least privilege, *Necessity* deliver verdict *N*, and measures that are exclusively guided by, or which at least privilege, *Sufficiency* deliver a conflicting verdict *S* – there is no one 'right' verdict. All we can sensibly say is that *N* reflects degree of causal contribution along the dimension of necessity and that *S* reflects degree of causal contribution along the dimension of sufficiency.

No-Degrees-of-Causation: say that causation just does not come in degrees. Then, there is no puzzle. After all, on this view, there are no 'dimensions' of causal contribution, the uncertain interaction of which we must negotiate. Note that the acceptability of this reaction depends importantly on our ability to explain away the widespread appearance that causation comes in degrees, given that causation does not come in degrees.

Carolina Sartorio claims that, of these five reactions, *No-Degrees-of-Causation* is the best.¹⁰ This claim relies on three sub-claims. The first sub-claim is that, assuming *No-Degrees-of-Causation*, we can, for the most part, explain why, in many scenarios, it appears as if causation comes in degrees.¹¹ The second sub-claim is that a choice of *Pro-Necessity*, *Pro-Sufficiency*, or *Egalitarian-Hybrid* will likely be arbitrary and *ad hoc*.¹² The third sub-claim is that a choice of *Incommensurability* will likely result in a 'dysfunctional' view of moral responsibility and/or liability.¹³ As Sartorio notes, if *No-Degrees-of-Causation* is correct, then this will have implications for moral theory.¹⁴ For example, consider the following questions regarding the ethics of war. Country *A* unjustifiably ignites a lethal war with country *B*. Are most combatants of *A* liable to lethal counterattack? Are most non-combatants of *A* similarly liable? Suppose you answer 'yes' to the former, but 'no' to the latter. Given *No-Degrees-of-Causation*, it seems like you would be unable to use the following type of reasoning to support your answers. 'Admittedly, most non-combatants of *A* causally contribute to *A*'s unjust, lethal war effort (they may repair military equipment, donate funds, etc.). However, unlike most combatants of *A*, their causal contributions are not of such a degree that makes them liable to lethal counterattack'.

I deny that *No-Degrees-of-Causation* is the best reaction to our puzzle. In what is left of this article, I focus on challenging Sartorio's first sub-claim. To establish this sub-claim, Sartorio considers at least three causal scenarios, each of which 'paradigm[atically]'¹⁵ evokes causation's apparent scalarity. For each scenario, Sartorio offers a unique account of the 'illusion'¹⁶ that causation comes in degrees. I address Sartorio's three accounts

sequentially, from Section 2 to Section 4. In fact, I do not take much issue with Sartorio's first account. Section 2 will actually suggest that this account is well-motivated. My main qualms concern Sartorio's second and third accounts. Section 3 will argue that the former is not well-motivated. Section 4 will do the same for the latter. In Section 5, I'll briefly address Sartorio's third sub-claim.

2. Sartorio's First Account

The first causal scenario which, according to Sartorio, paradigmatically evokes causation's apparent scalarity, involves the following pair of cases.

Bullet: Dukat shoots a bullet directly at Victim. Everything goes according to plan – the bullet reaches and kills Victim.

Bullet-with-Bird: Dukat shoots a bullet directly at Victim. However, a bird intercepts the bullet. The bullet still reaches Victim, but with a reduced momentum – it alone can no longer kill her. Alas, the bird independently dislodges a nearby, loose boulder. While this boulder cannot crush Victim to death on its own, the bullet and the boulder together kill Victim.

(Appearance 1) It appears that Dukat makes a more substantial causal contribution to Victim's death in *Bullet* than he makes to Victim's death in *Bullet-with-Bird*.

Assuming, however, that causation does not come in degrees, how do we explain away Appearance 1? To answer this question, Sartorio appeals to expectations.¹⁷ Note first that, on Sartorio's non-scalar view of causation, 'making a causal contribution is an on/off matter, which *just* consists in, very roughly, joining forces with other facts of the circumstances to collectively give rise to an outcome'.¹⁸ On such a view, then, Dukat's shooting makes a causal contribution to Victim's death if and only if Dukat's shooting is (in some sense) 'sufficient [for Victim's death] against a background of other "collaborating" [...] circumstances'.¹⁹ Moreover, either Dukat's shooting is sufficient like so (and hence causally contributes to Victim's death), or it is not (and hence makes no causal contribution to Victim's death).

According to Sartorio, Appearance 1 obtains because, in *Bullet*, Dukat's shooting appears sufficient in the circumstances for Victim's death. (That is, in *Bullet*, Dukat's shooting appears sufficient for Victim's death, against a circumstantial 'background' that includes Victim's remaining stationary, etc.) However, in *Bullet-with-Bird*, Dukat's shooting 'does not seem sufficient' in the circumstances for Victim's death.²⁰ After all, 'the bird's contribution is so unexpected that we have trouble picturing it as part of the background circumstances against which we judge [Dukat's causal] contribution'.²¹ (Of course, Sartorio thinks it is a false seeming that Dukat's shooting is not sufficient in the circumstances for Victim's death. To Sartorio, Dukat's shooting is equally sufficient in the circumstances for (and hence causally contributes to) Victim's death in both *Bullet* and *Bullet-with-Bird*.)²²

Does Sartorio successfully explain away Appearance 1? Perhaps partially. I suggest that, at least, appealing to expectations to account for Appearance 1 seems well-motivated. Let an event count as 'expected' to the extent that its occurrence follows some (relevant)

statistical norm. Also, let an event count as 'unexpected' to the extent that its occurrence violates some (relevant) statistical norm. (So, and to use Icard *et al.*'s example, 'Oregon's experiencing a sunny winter' would be an unexpected event, given that winters in Oregon generally tend to be overcast.)²³ It is well-established that judgements of actual causation are affected by judgements concerning the expectedness of events.²⁴ Consider, in particular, the following two varieties of this general phenomenon. Say that some outcome *E* depends on a causal factor *C*, as well as an alternative causal factor *A*, such that *E* will only occur if both *C* and *A* occur.

Abnormal Inflation: '[p]eople will be more inclined to say that *C* caused [*E*] when they regard *C* as [unexpected] than when they regard *C* as [expected]'.²⁵

Supersession: '[p]eople will be less inclined to say that [*A*] caused [*E*] if [*C*] is [unexpected] than if [*C*] is [expected]'.²⁶

Now, Sartorio's explanation may not be a fully accurate diagnosis of why Appearance 1 obtains. For example, it may or may not be true that, in *Bullet-with-Bird*, the unexpected nature of the bird's contribution results specifically in our 'hav[ing] trouble picturing [the bird's contribution] as part of the background circumstances against which we judge [Dukat's causal] contribution'.²⁷ Nevertheless, Sartorio seems correct to note that, in *Bullet-with-Bird*, Victim's death depends on both Dukat's shooting, and an alternative, (presumably) unexpected causal factor (i.e. Victim's being struck by a falling boulder that was dislodged by some bird). Thus, on the one hand, in *Bullet-with-Bird*, maybe we are simultaneously less inclined to say that Dukat's shooting is a cause of Victim's death (given *Supersession*) and more inclined to say that the bird's contribution is a cause of Victim's death (given *Abnormal Inflation*). However, on the other hand, in *Bullet*, our inclination to say that Dukat's shooting is a cause of Victim's death is undiminished by the presence of any alternative, unexpected causal factor(s). After all, in *Bullet*, Victim's death depends on Dukat's shooting, and alternative, (presumably) expected causal factors (e.g. Victim's remaining stationary). That this asymmetry at least partially explains why Appearance 1 obtains does not strike me as implausible.

Accordingly, I do not take much issue with Sartorio's account of Appearance 1. At this point, I will just note that, in scenarios where each causal factor is similarly expected, Sartorio cannot appeal to expectations to explain away causation's apparent scalarity. Suppose, for example, that we are comparing *Bullet* with *Joint Causation*.²⁸ In this scenario, causation's apparent scalarity seems to be evoked. That is, it appears that Dukat makes a more substantial causal contribution to Victim's death in *Bullet* than he makes to Victim's death in *Joint Causation*. Sartorio, however, cannot explain this appearance away by appealing to expectations. After all, Dukat's shooting in *Bullet* is no more unexpected than it is in *Joint Causation*. (Of course, to explain away the foregoing appearance, Sartorio may appeal to some other asymmetry between Dukat's shooting in *Bullet* and Dukat's shooting in *Joint Causation*. The asymmetry I suspect she will settle for is the following. In *Bullet*, Dukat's shooting appears (in the circumstances) both necessary and sufficient for Victim's death. However, in *Joint Causation*, Dukat's shooting appears only necessary (in the circumstances) for Victim's death. That said, Section 4 will argue that appealing to such an asymmetry is not well-motivated.)

3. Sartorio's Second Account

Here is the second causal scenario which, according to Sartorio, paradigmatically evokes causation's apparent scalarity.

Strong-Bullet-Weak-Bullet: let the 'strength' of a bullet be directly proportionate to the magnitude of its momentum. Simultaneously, Soran shoots a 'strong' bullet, and Khan shoots a 'weak' bullet, at Victim. For Victim to die, she must be struck by at least one 'strong' bullet and one 'weak' bullet (if Victim is struck just by, say, one 'strong' bullet, or two 'weak' bullets, she will survive). Victim is struck by both Soran's 'strong' bullet and Khan's 'weak' bullet. Victim dies.²⁹

(Appearance 2) It appears that, as compared to Khan, Soran makes a more substantial causal contribution to Victim's death.

Assuming, however, that causation does not come in degrees, how do we explain away Appearance 2? To answer this question, Sartorio appeals to dispositions.³⁰ She begins with the claim that Soran's 'strong' bullet has a greater disposition to harm (is more harmful) than Khan's 'weak' bullet. That is, as compared to shooting the 'weak' bullet, shooting the 'strong' bullet results in harm in a wider range of possible scenarios. (So, perhaps, only in scenarios where the victim is a child does shooting the 'weak' bullet result in harm. Contrarily, shooting the 'strong' bullet results in harm in any scenario involving either a child or an adult.)

Sartorio then claims that Appearance 2 obtains because we mistake Soran's shooting (at Victim) a more harmful bullet, for Soran's making a more substantial causal contribution to Victim's death. (Of course, we should not mistake the former for the latter. That Soran shoots (at Victim) a more harmful bullet indicates only that shooting Soran's bullet results in harm in a wider range of possible scenarios. However, if Soran makes a more substantial causal contribution to Victim's death, this would presumably be because Victim is actually harmed more by the impact of Soran's bullet, as compared to the impact of Khan's bullet.)

Does Sartorio successfully explain away Appearance 2? I am sceptical. Appealing to dispositions to account for Appearance 2 does not strike me as well-motivated. After all, judgements concerning the relative strengths of causal factors C_1, \dots, C_n do not generally seem to track (those relevant) dispositional differences that may exist between the (relevant) entities involved in C_1, \dots, C_n (at least not in the way that Sartorio suggests). That is, in most scenarios, we simply do not link 'the general powers or dispositions of things [...] with actual causal contributions'.³¹

Consider the following case:

Trump: in many scenarios (those involving matters of foreign policy, those involving matters of domestic policy, etc.), Ivanka's giving her approval will convince Trump to ratify the relevant order. In comparatively fewer scenarios (perhaps only those involving matters of domestic policy), Trump Jr.'s giving his approval will convince Trump to ratify the relevant order. To convince Trump to ratify the launch of a nuclear missile, both Ivanka and Trump Jr. must give their approval (approval from just one of the two children is not enough). Alas, Ivanka and Trump Jr. both give their approval. Trump is convinced and so ratifies the launch.

In *Trump* (and insofar as we adopt Sartorio's approach to scaling dispositions), there exists a (relevant) dispositional difference between the (relevant) entities involved in the causal factors. After all, as compared to Trump Jr.'s approval, Ivanka's approval possesses a greater disposition to convince (is more convincing). That is, as compared to Trump Jr.'s giving his approval, Ivanka's giving her approval results in Trump's being convinced in a wider range of possible scenarios.³² Now, suppose that judgements concerning the relative strengths of causal factors track such dispositional differences (in the way that Sartorio suggests). Then, we should intuit that, as compared to Trump Jr.'s giving his approval, Ivanka's giving her approval is more a cause of Trump's being convinced to ratify the launch. I doubt, however, that we intuit this.³³

We might also consider the following case-pair:

Strong Bullet: Dukat shoots a 'strong' bullet at Victim. Everything goes according to plan – the bullet reaches and kills Victim.

Weak Bullet: Dukat shoots a 'weak' bullet at Victim. Everything goes according to plan – the bullet reaches and kills Victim.

There is one difference between the two cases – as compared to the bullet that is shot in *Weak Bullet*, the bullet that is shot in *Strong Bullet* possesses a greater disposition to harm. I doubt, however, that this difference motivates the intuition that Dukat's shooting is more a cause of Victim's death in *Strong Bullet* than it is a cause of Victim's death in *Weak Bullet*.

So, judgements concerning the relative strengths of causal factors do not generally seem to track (the relevant) dispositional differences (at least not in the way that Sartorio suggests). That is, it just does not seem 'very natural to run [degrees of causal contribution and (graded) dispositions] together'.³⁴ But perhaps Sartorio will admit this, and nonetheless insist that, in *Strong-Bullet-Weak-Bullet*, we are 'conflating the general powers or dispositions of things [...] with actual causal contribution'.³⁵ Such an insistence, however, would strike me as rather *ad hoc*.

4. Sartorio's Third Account

The third causal scenario which, according to Sartorio, paradigmatically evokes causation's apparent scalarity, involves the following pair of cases.³⁶

Bullet: Dukat shoots a bullet directly at Victim. Everything goes according to plan – the bullet reaches and kills Victim.

Symmetric Overdetermination: Dukat and Kruge shoot identical bullets at Victim. Victim is struck by both bullets simultaneously and dies. Victim would've died even if she had been struck by just one of the two bullets.

(Appearance 3) It appears that Dukat makes a more substantial causal contribution to Victim's death in *Bullet* than he makes to Victim's death in *Symmetric Overdetermination*.

Assuming, however, that causation does not come in degrees, how do we explain away Appearance 3? To answer this question, Sartorio appeals to grounds.³⁷ Suppose that *C* is an actual cause of a distinct event *E*. Note first that, on Sartorio's non-scalar view of causation, how close *C* came to being necessary/(individually) sufficient for *E* is not a dimension along which we measure the degree to which *C* caused *E*. That said,

if *C* was, say, rather close to being necessary/(individually) sufficient for *E*, then this is a ‘ground’³⁸ for the existence of a causal relation between *C* and *E*.

According to Sartorio, in *Bullet*, there appears to be one additional ‘ground’ for the existence of a causal relation between Dukat’s shooting and Victim’s death. After all, in *Bullet*, Dukat’s shooting appears (in the circumstances) both necessary and sufficient for Victim’s death. In *Symmetric Overdetermination*, however, Dukat’s shooting appears only sufficient (in the circumstances) for Victim’s death. Appearance 3, then, obtains because we mistake this difference in number of ‘grounds’ for Dukat’s having made a more substantial causal contribution to Victim’s death in *Bullet*. (Of course, we should not make this mistake.

[...] [T]hat there is more than one sufficient ground for thinking that something is a cause does not mean that we should regard it as more of a cause [...] [a]s an analogy, imagine a side table that can do double-duty as a barstool: the fact that there are two different sufficient grounds for considering it to be furniture does not make it more of a piece of furniture.)³⁹

Does Sartorio successfully explain away Appearance 3? I am sceptical. Appealing to (number of) ‘grounds’ to account for Appearance 3 does not strike me as well-motivated. After all, our judgements of actual causal strength do not generally seem to track (number of) ‘grounds’ (at least not in the way that Sartorio suggests). That is, in most scenarios, we simply do not link ‘grounds for causation [...] with degrees of causation’.^{40,41}

Consider a standard case of (either ‘early’ or ‘late’) pre-emption. For example, consider:

Early Pre-emption: Dukat and Kruge ready themselves to simultaneously shoot identical bullets at Victim. To kill Victim, just one of the two shootings will suffice. Dukat jumps the gun – he shoots and kills Victim before Kruge acts.

Compare *Early Pre-emption* with *Symmetric Overdetermination*. In *Early Pre-emption*, it’s very intuitive that Dukat’s shooting is a cause of Victim’s death. In *Symmetric Overdetermination*, it’s perhaps slightly less intuitive that Dukat’s shooting is a cause of Victim’s death (David Lewis, for example, thinks that there’s a general ‘lack of firm common-sense judgements’⁴² regarding whether or not symmetric overdeterminers are causes *simpliciter*).⁴³ Possibly, this suggests a general intuition that Dukat’s shooting is more a cause of Victim’s death in *Early Pre-emption* than it is a cause of Victim’s death in *Symmetric Overdetermination*.⁴⁴ Note, however, that in both cases, we have the same number of ‘grounds’ (for the existence of a causal relation between Dukat’s shooting and Victim’s death). After all, in both cases, Dukat’s shooting appears only sufficient (in the circumstances) for Victim’s death.

But perhaps the general intuition is that Dukat’s shooting is just as much a cause of Victim’s death in *Symmetric Overdetermination* as it is a cause of Victim’s death in *Early Pre-emption*.⁴⁵ In that case, if we compare *Early Pre-emption* with *Symmetric Overdetermination*, this will not support the thought that judgements of actual causal strength (generally) fail to track number of ‘grounds’. Here, then, is another case-pair that might support the foregoing thought.

Good Chuck: Chuck is sitting for an open-book exam. So long as he refers to text-book *T*, he will pass the exam. He must, however, refer to *T*, or else he will fail. During the exam, Chuck refers to *T*. He passes.

Bad Chuck: Chuck is sitting for a closed-book exam. If he somehow manages to refer to *T* during the exam, he will pass. However, even if Chuck fails to refer to *T* during the exam, he will still pass, in virtue of his father's having bribed a certain administrator. Somehow, Chuck sneaks *T* into the exam venue and manages to refer to *T*. Chuck passes. (Our dishonorable administrator is never activated.)

In *Good Chuck*, there are two 'grounds' for the existence of a causal relation between Chuck's referring to *T*, and Chuck's passing. (In *Good Chuck*, Chuck's referring to *T* appears (in the circumstances) both necessary and sufficient for his passing.) However, in *Bad Chuck*, there is just one such 'ground'. (In *Bad Chuck*, Chuck's referring to *T* appears only sufficient (in the circumstances) for his passing.) Now, suppose that judgements of actual causal strength track number of 'grounds' (in the way that Sartorio suggests). Then, we should intuit that Chuck's referring to *T* is more a cause of his passing in *Good Chuck* than it is a cause of his passing in *Bad Chuck*. I doubt, however, that we intuit this.⁴⁶

So, judgements of actual causal strength do not generally seem to track number of 'grounds' (at least not in the way that Sartorio suggests). But perhaps Sartorio will admit this and nonetheless insist that, in the *Bullet/Symmetric Overdetermination case-pair*, we are 'confus[ing] grounds for causation [...] with degrees of causation'.⁴⁷ Such an insistence, however, would strike me as rather *ad hoc*.

5. A Brief Defence of *Incommensurability*

I hope to have cast doubt on the thought that we can, for the most part, explain away the widespread appearance that causation comes in degrees (given that causation does not come in degrees). If I have cast such doubt, this should jeopardize Sartorio's claim that *No-Degrees-of-Causation* is the best reaction to the puzzle (presented in Section 1).

To further jeopardize this claim, I'll briefly defend the palatability of an alternative reaction – *Incommensurability*. Now, Sartorio shuns *Incommensurability*, at least partly because she worries that this reaction will produce a 'dysfunctional' view of moral responsibility and/or liability.⁴⁸ Recall that *Incommensurability* says the following. 'Consider a causal scenario where measures that are exclusively guided by, or which at least privilege, *Necessity* deliver verdict *N*, and measures that are exclusively guided by, or which at least privilege, *Sufficiency* deliver a conflicting verdict *S*. Here, there is no one "right" verdict (regarding degrees of causal contribution). *N* is "right" in one sense, *S* in another'. Sartorio, however, worries that this view makes it difficult to 'sett[le] [potential] issues about [moral] responsibility and liability in [such causal scenarios]'.⁴⁹ For example, consider again *Joint Causation* and *Symmetric Overdetermination*. In which case are Dukat and Kruge more morally responsible for Victim's death? If we cannot say in which case the two play a greater causal role, then it seems challenging to answer the foregoing question.

As Helen Beebe and Alex Kaiserman concede, it is possibly true that, on *Incommensurability*, there is no answer to the foregoing question (regarding moral responsibility).⁵⁰ But two points might make this concession more palatable. Firstly (and this is Kaiserman's point), it is plausible that the is more morally responsible than relation is not a total order. That is, plausibly, 'there are [...] agents who are simply incomparable in terms of their moral responsibility for some outcome'.⁵¹ To use Kaiserman's example, compare

the kleptomaniac who intentionally steals Zara's suitcase, with the negligent hedge-fund trader who grabs Zara's suitcase by mistake. Who is more morally responsible for Zara's loss?⁵²

Secondly (and this is what I will add), it is plausible that the *Joint Causation/Symmetric Overdetermination* case-pair (i.e. the prime example of a causal scenario in which *Necessity* and *Sufficiency* 'clash') is just one of those scenarios in which there are agents who are simply incomparable in terms of moral responsibility. For one thing, do we clearly intuit that, in one of the two cases, Dukat and Kruge are more morally responsible for Victim's death? I doubt it. For another thing, when we compare Dukat's/Kruge's moral responsibility for Victim's death in *Joint Causation* with Dukat's/Kruge's moral responsibility for Victim's death in *Symmetric Overdetermination*, we are comparing (degrees of) moral responsibility across causal cases (as opposed to within one causal case). But I wonder if such comparisons are possible. It is conceivable that we might sensibly compare how morally responsible Hitler was for World War II, with how morally responsible Mussolini was for World War II. However, *prima facie*, it seems difficult to conceive of how we would go about comparing how morally responsible Hitler was for World War II with how morally responsible Lee Harvey Oswald was for John F. Kennedy's death.

My final task is to note, and (briefly) address, one potential drawback of accepting *Incommensurability*. This concerns the ethics of war. Recall the scenario mentioned at the end of Section 1, in which country *A* unjustifiably ignites a lethal war with country *B*. Now, consider the following thought.

(General) Non-combatant Non-liability: while (most) combatants of *A* are liable to lethal counterattack, (most) non-combatants of *A* aren't similarly liable.

Suppose we want to causally ground this thought. That is, we want to reason as follows. '*(General) Non-combatant Non-liability* is plausible because, on the one hand, (most) *A*-combatants causally contribute to *A*'s unjust threat to such a degree that makes them liable to lethal counterattack. On the other hand, (most) *A*-non-combatants fail to causally contribute to *A*'s unjust threat to such a degree'.⁵³

Recall, however, that if we accept *No-Degrees-of-Causation*, then such reasoning is unavailable to us. But is such reasoning available to us if we accept *Incommensurability*? Perhaps not. Suppose we accept *Incommensurability*, and that there are numerous 'clash' scenarios – scenarios in which *Necessity* and *Sufficiency* deliver conflicting verdicts, regarding whether it's some *A*-combatant, or some *A*-non-combatant, that makes a more significant causal contribution to *A*'s unjust threat. Then, we seem unable to causally ground *(General) Non-combatant Non-liability*. After all, in many scenarios, there just will not be any fact of the matter as to whether it's some *A*-combatant, or some *A*-non-combatant, that's more a cause of *A*'s unjust threat.⁵⁴

Admittedly, given numerous 'clash' scenarios and a desire to causally ground *(General) Non-combatant Non-liability*, accepting *Incommensurability* may be unideal, at least relative to accepting *No-Degrees-of-Causation*. However, two points might make this admission more palatable. Firstly, 'clash' scenarios may in fact be few. In that case, accepting *Incommensurability* does not preclude a causal grounding of *(General) Non-combatant Non-liability*. Suppose that, as compared to (events involving) *A*-non-combatants, (events involving) *A*-combatants (by and large) come closer both to being (individually) necessary and to being (individually) sufficient for *A*'s unjust threat. Suppose also that we accept *Incommensurability*. Then, there may indeed be a few scenarios in which there is no fact

of the matter as to whether it is some *A*-combatant, or some *A*-non-combatant, that is more a cause of *A*'s unjust threat. Nonetheless, we would be able to claim (quite comfortably) that, by and large, *A*-combatants make more significant causal contributions to *A*'s unjust threat. And this would pave the way for a causal grounding of (*General*) *Non-combatant Non-liability*.

Secondly, suppose that 'clash' scenarios are numerous. In that case, I doubt we would actually desire a causal grounding of (*General*) *Non-combatant Non-liability*. (And, of course, if such a grounding is not desirable, then it is not a drawback of accepting *Incommensurability* that doing so precludes such a grounding.) Why doubt that, if 'clash' scenarios are numerous, we would desire a causal grounding of (*General*) *Non-combatant Non-liability*? Because it is possible that, in 'clash' scenarios, we do not clearly intuit that only the combatant is liable to lethal counterattack. Consider, for example, the following case-pair.

Necessary-but-Insufficient Propaganda: a propaganda writer for *A* produces her masterpiece. It turns out that, without this masterpiece, the people of *A* would not have been galvanized to war. (Of course, the production of this masterpiece was individually insufficient for *A*'s posing an unjust threat to *B*.)

Sufficient-but-Unnecessary Sniper: some sniper for *A* shoots at, and kills, defenders of *B*. (That is, this sniper poses an unjust threat to (the people of) *B*.) Of course, this sniper is just one amongst the thousands of snipers deployed by *A*.

Do we clearly intuit that only the sniper, and not the propaganda writer, is liable to lethal counterattack? I'm not sure. Thus, if such 'clash' scenarios are common, then perhaps we would not condone (*General*) *Non-combatant Non-liability* and hence desire a causal grounding of (*General*) *Non-combatant Non-liability*.

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NOTES

- 1 For articulations of (and differing reactions to) this puzzle, see Sartorio, Carolina. 2020. "More of a Cause?" *Journal of Applied Philosophy* 37(3): 346–63; Bernstein, Sara. 2017. "Causal Proportions and Moral Responsibility." In *Oxford Studies in Agency and Responsibility: Volume 4*, edited by D. Shoemaker, 165–82. Oxford: Oxford University Press, p. 165 and pp. 170–2; Kaiserman, Alex. 2018. "'More of a Cause': Recent Work on Degrees of Causation and Responsibility." *Philosophy Compass* 13(7): e12498, pp. 5–7; Tadros, Victor. 2018. "Causal Contributions and Liability." *Ethics* 128(2): 402–31, p. 422.
- 2 See Sartorio op. cit., pp. 349–51.
- 3 Chockler, Hana, and Joseph Halpern. 2004. "Responsibility and Blame: A Structural-Model Approach." *Journal of Artificial Intelligence Research* 22(1): 93–115.

- 4 Kaiserman, Alex. 2016. "Causal Contribution." *Proceedings of the Aristotelian Society* 116(3): 387–94. See also Kaiserman 2018 op. cit., pp. 4–5.
- 5 Icard, Thomas F., Jonathan F. Kominsky, and Joshua Knobe. 2017. "Normality and Actual Causal Strength." *Cognition* 161: 80–93.
- 6 Of course, some causal-degree measures aren't obviously guided by either *Necessity* or *Sufficiency*. These may include at least some probabilistic measures of causal strength (for a survey of such measures, see Fitelson, Branden, and Christopher Hitchcock. 2011. "Probabilistic Measures of Causal Strength." In *Causality in the Sciences*, edited by P. M. Illari, F. Russo, and J. Williamson, 600–27. Oxford: Oxford University Press), and at least some measures which link causal-degree to some notion of what it is for an event to be 'normal' (see, for example, Halpern, Joseph, and Christopher Hitchcock. 2015. "Graded Causation and Defaults." *British Journal for the Philosophy of Science* 66(2): 413–57).
- 7 Sartorio considers a case involving joint causation ('*Bullet-with-Bird*') that differs in detail from (my) *Joint Causation*. She also considers a case involving symmetric overdetermination ('*No Difference (Strong)*') that differs in detail from (my) *Symmetric Overdetermination*. See Sartorio op. cit., p. 352.
- 8 Sartorio op. cit., p. 352.
- 9 Presumably, a 'hybrid' measure like Icard *et al.*'s (op. cit.) will say that Dukat and Kruge contribute roughly as much to Victim's death in *Joint Causation* as they do to Victim's death in *Symmetric Overdetermination*.
- 10 Sartorio op. cit.
- 11 Sartorio op. cit., pp. 354–8.
- 12 Sartorio op. cit., p. 353 and p. 362, n. 24.
- 13 Sartorio op. cit., p. 353 and p. 362, n. 25.
- 14 Sartorio op. cit., pp. 346–7 and pp. 358–60. See also Beebe, Helen, and Alex Kaiserman. 2020. "Causal Contribution in War." *Journal of Applied Philosophy* 37(3): 364–77, pp. 364–6.
- 15 Sartorio op. cit., p. 354.
- 16 Sartorio op. cit., p. 353.
- 17 Sartorio op. cit., pp. 354–5.
- 18 Sartorio op. cit., p. 354. Emphasis hers.
- 19 Sartorio op. cit., p. 354.
- 20 Sartorio op. cit., p. 354.
- 21 Sartorio op. cit., p. 354.
- 22 Sartorio op. cit., p. 355. Emphasis hers.
- 23 Icard *et al.* op. cit., p. 80.
- 24 See, for example, Icard *et al.* op. cit.; Halpern and Hitchcock op. cit.; Hitchcock, Christopher, and Joshua Knobe. 2009. "Cause and Norm." *Journal of Philosophy* 106(11): 587–612.
- 25 Icard *et al.* op. cit., p. 81.
- 26 Icard *et al.* op. cit., pp. 81–2. See also Kominsky, Jonathan F., Jonathan Phillips, Tobias Gerstenberg, David Lagnado, and Joshua Knobe. 2015. "Causal Superseding." *Cognition* 137: 196–209. Experimental results actually suggest that both *Supersession* and *Abnormal Inflation* hold, not just when the 'expectedness' of *C/A* involves statistical norms – they hold also when the 'expectedness' of *C/A* involves prescriptive norms.
- 27 Sartorio op. cit., p. 354.
- 28 In fact, *Bullet-with-Bird* is just a case of joint causation in which certain causal factors are more unexpected than others.
- 29 Sartorio op. cit., p. 356.
- 30 Sartorio op. cit., pp. 355–6.
- 31 Sartorio op. cit., p. 356.
- 32 Perhaps the degree to which a bullet *B1* is disposed to harm should be analysed not just in terms of the range of possible scenarios in which shooting *B1* results in (some) harm. Perhaps we should also consider the various degrees to which shooting *B1* harms, in those possible scenarios where shooting *B1* results in (some) harm. Why? Say we are comparing how harmful *B1* is with how harmful bullet *B2* is. Suppose also that, in all possible scenarios in which shooting *B1* results in (some) harm, shooting *B2* also results in (some) harm. In each of these scenarios, however, shooting *B1* (instead of *B2*) results in more harm. Here, it seems we should regard *B1* as more harmful than *B2* (see Manley, David, and Ryan Wasserman. 2007. "A Gradable Approach to Dispositions." *Philosophical Quarterly* 57(226): 68–75, p. 73).

Now if, in *Trump*, Trump's conviction comes in degrees (like how, presumably, a victim's harm comes in degrees), then, to analyse the convincingness of Ivanka's/Trump Jr.'s approval, we should consider both the

range of possible scenarios in which Ivanka's/Trump Jr.'s giving their approval results in Trump's being convinced, and the various degrees to which Trump is convinced in these scenarios. I stipulate, however, that, in *Trump*, Trump's being convinced is an 'all-or-nothing' matter. That is, either Trump is fully convinced to ratify the relevant order, or he is not convinced at all. Thus, to determine if Ivanka's approval is more convincing than Trump Jr.'s approval, it is enough to look at the range of possible scenarios in which Ivanka's/Trump Jr.'s giving their approval results in Trump's being convinced.

- 33 I thank an anonymous reviewer for pointing out that Sartorio may respond to my *Trump* case, by saying something like so:

Trump does not jeopardize the hypothesis that we tend to conflate actual causal contributions with (the relevant) general powers or dispositions. After all, it's unclear that there's any *relevant* dispositional difference between Ivanka's approval, and Trump Jr.'s approval (and so, it's unsurprising that we fail to intuit that Ivanka's giving her approval is more a cause of Trump's being convinced to ratify the launch). Why the unclarity? Because the relevant disposition here, that which would be conflated with actual causal contribution, is the disposition of Ivanka's/Trump Jr.'s approval to convince Trump to ratify *the launch of a nuclear missile*. It is not the disposition of Ivanka's/Trump Jr.'s approval to convince Trump to ratify orders *more generally*. And while it's clear that Ivanka's approval is more *generally* convincing, it's unclear that Ivanka's approval is more convincing *when it comes to the launch of nuclear missiles*.

In response, I first emphasize that Sartorio's own hypothesis is that, in at least some cases, we are 'conflating the *general* powers or dispositions of things [...] with actual causal contribution' (Sartorio op. cit., p. 356; emphasis mine). Moreover, the level of generality that Sartorio seems to work with does not seem any more restricted than the level of generality that's at work when we say that, as compared to Trump Jr.'s approval, Ivanka's approval is more convincing. For example, in her explaining away Appearance 2, the general dispositional difference that Sartorio (op. cit., pp. 355–6) appeals to goes as follows. Soran's 'strong' bullet results 'in the death of the victim in scenarios where the victim is an adult, in addition to scenarios where the victim is a child, [etc.]'. Presumably, however, Khan's 'weak' bullet only results in the death of the victim in scenarios where the victim is a child. Notably, Sartorio does not appeal to, for example, the difference between the harmfulness of the 'strong' bullet when it comes to a 'sturdy' victim, and the harmfulness of the 'weak' bullet when it comes to a 'sturdy' victim (see Sartorio op. cit., p. 356). Thus, suppose Sartorio wants to say that, in *Trump*, what is relevant is the convincingness of Ivanka's/Trump Jr.'s approval when it comes to the launch of nuclear missiles (and not the convincingness of Ivanka's/Trump Jr.'s approval more generally). Then, I believe she must explain why the following is true. 'In *Strong-Bullet-Weak-Bullet*, it's more general dispositions that are likely to be confused with actual causal contributions. However, in *Trump*, it's less general dispositions that are likely to be confused with actual causal contributions'. Moreover, I believe Sartorio must also tell us why it is plausible that we confuse actual causal contributions with such, less general dispositions.

- 34 Sartorio op. cit., p. 356.
 35 Sartorio op. cit., p. 356.
 36 Sartorio op. cit., pp. 357–8. In her third account, Sartorio names (my) *Bullet* case 'Difference'. Moreover, she names (my) *Symmetric Overdetermination* case 'No Difference'.
 37 Sartorio op. cit., pp. 357–8.
 38 Sartorio (op. cit., p. 363, n. 32) remains neutral on the nature of 'grounds'. 'Grounds' may either be 'real metaphysical grounds', or 'just epistemic' (i.e. if *C* was, say, rather close to being necessary/(individually) sufficient for *E*, then this is 'reaso[n] to think that' (Sartorio op. cit., p. 357) a causal relation exists between *C* and *E*).
 39 Sartorio op. cit., p. 357.
 40 Sartorio op. cit., p. 357. Emphasis hers.
 41 Recall the suggestion, at the end of Section 2, that Sartorio may appeal to (number of) 'grounds' to account for the appearance that Dukak's shooting is more a cause of Victim's death in *Bullet* than it is a cause of Victim's death in *Joint Causation*. My criticism in this section applies to such an appeal too.
 42 Lewis, David. 1986. "Postscripts to 'Causation'." In his *Philosophical Papers, Volume II*, 173–213. Oxford: Oxford University Press, p. 208.
 43 That said, others argue that symmetric overdeterminers are causes simpliciter (see Schaffer, Jonathan. 2003. "Overdetermining Causes." *Philosophical Studies* 114(1): 23–45; Paul, L.A., and Ned Hall. 2013. *Causation: A User's Guide*. Oxford: Oxford University Press, pp. 152–3).

- One notable feature of the debate seems to be that symmetric over-determiners are taken to be either 'full' causes, or non-causal. I wonder, then, if Sartorio is right to think that the *Bullet/Symmetric Overdetermination* case-pair paradigmatically evokes causation's apparent scalarity. For suppose one takes symmetric overdeterminers to be 'full' causes. Then, in the *Bullet/Symmetric Overdetermination* case-pair, one sees no difference between the causal strength of Dukat's shooting in *Bullet* and that of Dukat's shooting in *Symmetric Overdetermination*. In that case, causation's apparent scalarity is not evoked. Suppose, however, that one takes symmetric overdeterminers to be non-causal. Then, again, the *Bullet/Symmetric Overdetermination* case-pair would not evoke the intuition that causation comes in degrees. After all, on this view, one does not think something like the following. 'Dukat's shooting possesses x amount of causal strength in *Bullet*. However, in *Symmetric Overdetermination*, Dukat's shooting possesses some amount of causal strength that's less than x '. Rather, on this view, one simply thinks that Dukat's shooting is a cause of Victim's death in *Bullet*, but not in *Symmetric Overdetermination*.
- 44 Of course, one may intuit that Dukat's shooting is more a cause of Victim's death in *Early Pre-emption* (than it is a cause of Victim's death in *Symmetric Overdetermination*), without thinking that, in *Symmetric Overdetermination*, Dukat's shooting is not a cause of Victim's death simpliciter.
- 45 Schaffer, for example, thinks that 'individual [symmetric] over-determiners deserve the same status as preempting causes' (Schaffer op. cit., p. 37).
- 46 Let us justify this doubt slightly more. Suppose that Suzy throws a rock at a window. Beside her, Billy sighs. The window breaks. What supports the intuition that Suzy's rock-throw is a cause of the window's breaking, while Billy's sigh is not? Here's an answer. Informed (only) of Suzy's rock-throw, I can predict, explain, and blame someone for, the window's breaking. Informed (only) of Billy's sigh, I can do none of these things. But then (and to use Schaffer's terminology), it seems like 'the core epistemic, explanatory, and ethical connotations of causation' (Schaffer, Jonathan. 2001. "Causation, Influence, and Effluence." *Analysis* 61(1): 11–9, pp. 12–3) are no more present in the claim that 'Chuck's referring to T caused his passing in *Good Chuck*', than they are in the claim that 'Chuck's referring to T caused his passing in *Bad Chuck*'. Firstly, compare a scenario in which I'm informed of Chuck's referring to T in *Good Chuck* with a scenario in which I'm informed of Chuck's referring to T in *Bad Chuck*. It is not as though I can better predict Chuck's passing in the former. Secondly, 'because Chuck referred to T ' seems as good an answer to the question 'why did Chuck pass in *Bad Chuck*?' as it is an answer to the question 'why did Chuck pass in *Good Chuck*?' Thirdly, it is not obvious that Chuck is more praiseworthy (for his legitimate passing) in *Good Chuck*, than he is blameworthy (for his illegitimate passing) in *Bad Chuck*.
- 47 Sartorio op. cit., p. 357. Emphasis hers.
- 48 Sartorio op. cit., p. 353.
- 49 Sartorio op. cit., p. 353.
- 50 Beebee and Kaiserman op. cit., p. 372.
- 51 Kaiserman 2018 op. cit., p. 7.
- 52 Kaiserman 2018 op. cit., pp. 6–7.
- 53 Seth Lazar, for example, employs similar reasoning when he writes that '[i]n both regular and irregular warfare, very few non-combatants are sufficiently causally responsible for unjustified threats to be liable [to be killed]' (Lazar, Seth. 2015. *Sparing Civilians*. Oxford: Oxford University Press, p. 94). See also McMahan, Jeff. 2004. "The Ethics of Killing in War." *Ethics* 114(4): 693–733, p. 711 and p. 728.
- 54 I thank an anonymous reviewer for making this point.