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Acts and Omissions as Positive and Negative Causes

RICHARD W WRIGHT*

I. INTRODUCTION

INDIVIDUAL MORAL OR legal responsibility for an actual or potential state of affairs does not exist unless one's conduct (possibly) was a cause of that state of affairs.¹ Conduct includes omissions as well as acts. In this chapter, the terms 'act', 'omission', and 'cause' are used in their core factual senses, unburdened by the normative factors that are often loaded onto or confused with them. An act is simply a volitional physical movement or exertion of a part of one's body, while an omission is a volitional *failure* to move or exert a part of one's body in a specific way.² A

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¹ I focus here on interactive justice rather than distributive justice. See Richard W Wright, 'The Grounds and Extent of Legal Responsibility' (2003) 40 *University of San Diego Law Review* 1425, 1429-34; Richard W Wright, 'The Principles of Justice' (2000) 75 *Notre Dame Law Review* 1859, 1883-92.

² An omission or 'negative act' rarely involves a complete lack of motion or exertion, contrary to what was literally stated but probably not intended by Jeremy Bentham:

[Acts] may be distinguished . . . into *positive* and *negative*. By positive are meant such as consist in motion or exertion: by negative, such as consist in keeping at rest; that is, in forbearing to move or exert oneself in such and such circumstances. Thus to strike is a positive act: not to strike on a certain occasion, a negative one. Positive acts are styled also acts of commission, negative, acts of omission or forbearance.

Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation* (1823) (New York, Hafner Press, 1948) ch VII s VIII, 72. Bentham assumed that acts and omissions are volitional, but he was not concerned with providing a precise account of the nature of the required volition. *Ibid*, at 72 fn 1. For the purpose of this chapter, I also do not need a precise account, but I think it is helpful to note, as suggested by my colleague, Richard Warner, that the movements or exertions (or lack thereof) need not be *consciously* controlled by one's will. For example, moving one's arms or standing completely still while lecturing is conduct, regardless of whether one is consciously aware of one's doing so, but movements or failures to move are not conduct if they are the result of a pure muscular reflex or the application of external force or if they occur while one is unconscious or soundly asleep. The volition

cause is a condition that contributed, from a purely factual, scientific standpoint, to some result.³

Omissions raise difficulties for both theoretical and ‘commonsense’ accounts of causation. Although from a commonsense, intuitive perspective, lawyers and lay persons often identify omissions—such as the failure to water a plant or to pay attention when driving—as causes of losses or harms, some philosophers have trouble with the idea that an omission—the absence of something—can cause anything. As John Stuart Mill stated, ‘From nothing, from a mere negation, no consequences can proceed’.⁴

Conversely, from a commonsense, intuitive perspective, lawyers and lay persons often fail to identify omissions as causes in situations in which, from a theoretical or more carefully considered practical perspective, they are seen to be causes. For example, legal texts and cases routinely treat the failure to build a dam to a sufficient height or to properly maintain its spillways to prevent flooding during ordinary storms as not being a cause of the dam’s overflow during an extraordinary storm that would have produced the overflow even if the dam were built to a proper height and its spillways were properly maintained.⁵ As I have previously explained, these dam overflow cases are instances of causal overdetermination, which present philosophical and analytical difficulties even when acts rather than omissions are the source of the causal overdetermination.⁶

The greatest difficulties seem to exist when multiple omissions overdetermine a causal process. An often cited example is the *Saunders* case, in

requirement applies only to the alleged act or omission itself, not to its consequences. My activating my muscles to take a step is volitional, even if I am unaware and have no reason to foresee that my doing so will set off a hidden trigger for an explosive. On the other hand, my being pushed by someone else onto the trigger or falling onto it due to an epileptic seizure does not involve any act or omission by me and, thus, does not constitute conduct on my part.

³ Considerable confusion exists due to the use of causal language to refer to not merely the issue of factual causation but also the issue of normative responsibility. See Richard W Wright, ‘Causation, Responsibility, Risk, Probability, Naked Statistics, and Proof: Pruning the Bramble Bush by Clarifying the Concepts’ (1988) 73 *Iowa Law Review* 1001, 1004-14. Additional confusion results from the use of the word ‘cause’ to refer to conditions that *would* have been but were not actually causes since their potential causal efficacy was preempted by the actual cause. This is the case with Hart and Honoré’s ‘additional cause’ and ‘alternative cause’ categories and David Fischer’s ‘multiple sufficient cause’, ‘successive cause’, and ‘dependently sufficient cause’ idioms. See HLA Hart and Tony Honoré, *Causation in the Law*, 2nd edn (Oxford, Oxford University Press, 1985) 235–53; David A Fischer, ‘Causation in Fact in Omission Cases’ (1992) *Utah Law Review* 1335, 1337 fn 5, 1349-50; David A Fischer, ‘Successive Causes and the Enigma of Duplicated Harm’ (1999) 66 *Tennessee Law Review* 1127, 1127-30; David A Fischer, ‘Insufficient Causes’ (2006) 94 *University of Kentucky Law Review* 277, 279, 281.

⁴ John Stuart Mill, *A System of Logic: Ratiocinative and Inductive*, 8th edn (London, Longmans, Green & Co, 1872) bk III ch V s 3.

⁵ Eg, *Restatement (Second) of Torts* (1965) § 432, comment b and illustration 2 [*Restatement Second*].

⁶ Richard W Wright, ‘Causation in Tort Law’ (1985) 73 *California Law Review* 1735, 1799-1800; Wright, *Legal Responsibility*, above n 1, at 1437-40; see pt III below.

which a collision occurred when a motorist driving a rental car allegedly did not attempt to brake until it was too late to avoid the collision, but the brakes allegedly were defective due to a lack of proper inspection and maintenance by the rental car company and therefore would not have stopped the car in time even if the driver had applied them earlier.⁷ In this and other cases involving a failure to attempt to use (in a timely, proper manner) a missing or inadequate safeguard (a safety device or warning), courts routinely hold that the fact that the safeguard was missing or inadequate was not a cause of the unavoids injury—unless there was no attempt to use the safeguard because it was known that the safeguard did not exist or was inadequate, in which case the failure to provide an adequate safeguard was a necessary condition for, and hence clearly a cause of, the injury.⁸ In those cases in which the courts discuss the causal status of the failure to attempt to use the safeguard, they hold that it was a cause of the injury.⁹ At least one of the omissions must have been a cause, since, considered together, they were a necessary condition for the occurrence of the injury. However, intuitive evaluations of causation in these types of situations reportedly are mixed,¹⁰ and their proper theoretical resolution is controversial. Indeed, some have argued that it is impossible to resolve the causal issue in these cases, or any overdetermined-causation case, through a purely factual, non-normative account of causation, and that this impossibility undermines the very idea of such an account.¹¹

I have argued that there is a purely factual, non-normative concept of causation that underlies and is embodied in the NESS (necessary element of a sufficient set) test for singular instances of causation, which—given sufficient information about the particular factual situation and the possibly applicable causal laws—can be used to resolve any causal issue,

⁷ *Saunders System Birmingham Co v Adams* 117 So 72 (Ala 1928) [*Saunders*].

⁸ Eg, *Saunders*, above n 7; *Rouleau v Blotner* 152 A 916 (NH 1931) (alleged failure of driver to signal prior to left turn, but driver of oncoming car was not looking forward); *Weeks v McNulty* 48 SW 809 (Tenn 1898) (failure to provide fire escape, which hotel guest did not check for or attempt to use); *Safeco Insurance Co v Baker* 515 So 2d 655 (La App 3d Cir 1987) (inadequate instructions, which however were not read); *McWilliams v Sir William Arrol & Co* [1962] 1 All ER 623 (HL) (failure to supply safety belt, which would not have been used if it had been supplied).

⁹ Fischer, Omission Cases, above n 3, at 1354.

¹⁰ Fischer, Insufficient Causes, above n 3, at 314-17.

¹¹ Eg, Fischer, Omission Cases, above n 3, at 1335, 1344-60; Fischer, Insufficient Causes, above n 3, at 288-89; Jane Stapleton, 'Perspectives on Causation' in Jeremy Horder (ed), *Oxford Essays in Jurisprudence, Fourth Series* (Oxford, Oxford University Press, 2000) 61-66, 77, 79-80, 81-84; Jane Stapleton, 'Legal Cause: Cause-in-Fact and the Scope of Liability for Consequences' (2001) 54 *Vanderbilt Law Review* 941, 957 fn 38, 966-67, fns 60-61.

including the most difficult multiple omission cases.¹² In this chapter I retrace and elaborate that argument, emphasising the importance of understanding the sense of sufficiency in the NESS test and the differences between positive causation and negative causation while building toward a discussion of overdetermination by multiple negative conditions.

II. POSITIVE AND NEGATIVE CAUSATION

How can an omission—an absence of something—cause anything? Mill himself provides the answer, wrapped around his seemingly contrary statement that ‘[f]rom nothing, from a mere negation, no consequences can proceed’:

[A sentry’s] being off his post was no producing cause [of the army’s being surprised by the enemy], but the mere absence of a preventing cause: it was simply equivalent to his non-existence. From nothing, from a mere negation, no consequences can proceed. All effects are connected, by the law of causation, with some set of *positive* conditions; negative ones, it is true, being almost always required in addition. In other words, every fact or phenomenon which has a beginning invariably arises when some certain combination of positive facts exists, provided certain other positive facts do not exist . . .

The cause, then, philosophically speaking, is the sum total of the conditions positive and negative taken together; the whole of the contingencies of every description, which being realised, the consequent invariably follows. The negative conditions, however, of any phenomenon, a special enumeration of which would generally be very prolix, may be all summed up under one head, namely, the absence of preventing or countervailing causes.¹³

Several different causal processes are at issue in Mill’s example. The army’s being surprised will occur through a causal process that includes the enemy’s stealthy approach unless, through a different causal process, some preventing cause intervenes. A preventing cause prevents the successful completion of the prevented causal process by eliminating one or more of its necessary positive conditions. One possible preventing cause of the enemy’s attempted surprise of the army is the army’s being forewarned by its sentry. Going one level deeper in the causal analysis, the question is why this forewarning did not occur. It failed due to the absence of the sentry, since the sentry’s presence is a necessary positive condition for the successful completion of the forewarning causal process. The sentry’s absence prevented the forewarning causal process from occurring, and

¹² See Wright, above n 6, at 1788-813; Wright, above n 3, at 1018-42; Richard W Wright, ‘Once More Into the Bramble Bush: Duty, Causal Contribution, and the Extent of Legal Responsibility’ (2001) 54 *Vanderbilt Law Review* 1071, 1101-9, 1123-31; Wright, Legal Responsibility, above n 1, at 1440-50.

¹³ Above n 4, at bk III ch V s 3.

thus, along with the absence of other possible preventing causes, ensured the successful completion of the surprise causal process. A condition (eg, the sentry's absence) that causes the failure of a possible preventing cause (forewarning by the sentry), by negating a necessary positive condition for the occurrence of the preventing cause, is a *negative cause* of the consequence of the unprevented causal process (the army's being surprised by the enemy).

As Mill notes, for any particular causal process there is a multitude of possible preventing causes that will prevent the successful completion of the causal process by preventing the existence of one of its necessary positive conditions. Mill's omnibus negative condition—the absence of any preventing cause—encompasses all the many different possibilities. If the necessary positive conditions for the causal process were fully specified in complete detail, there would be no need to specify the absence of any preventing cause, since the satisfaction of all the necessary positive conditions would be inconsistent with the existence of any preventing cause. However, since such a complete, detailed listing of all the necessary positive conditions is rarely if ever possible in practice, Mill's omnibus negative condition fills the descriptive void, while also emphasising the importance of always considering the possible existence of preventing causes. Moreover, in many situations—for example, the death of a plant or animal due to a lack of food or water—an attempt to describe the cause by listing all the necessary positive conditions without mentioning the critical negative condition would, at the least, be unilluminating.

Omissions generally operate as negative causes of some consequence, by precluding the occurrence of a possible preventing cause. However, omissions can and often do operate as positive causes, when a sentient being's observation of an omission affects that being's conduct. For example, a military officer's noticing a private's failure to salute may cause the officer to reprimand or otherwise discipline the private, an umpire's noticing a ballplayer's failure to touch a base will cause the umpire to call the player out, and a mother's noticing a child's failure to brush her teeth may cause the mother to instruct the child to do so.

In the analysis of causation, it is the distinction between positive causation and negative causation that is significant, rather than the distinction between acts and omissions. The philosophical and analytical difficulties posed by omissions as negative causes are posed also by acts when those acts similarly give rise to negative causation—the failure of some preventing or counteracting cause. For example, the act of removing a safety device or damaging it so that it no longer works results in a situation identical to that which exists if there had been no safety device in the first place. The act of removing the top X feet from a dam or filling its spillways with debris results in a situation identical to that which exists if the dam initially lacks those X feet of extra height or if its spillways fill

with debris due to a lack of proper maintenance. The act of taking away a child's food results in a situation identical to not supplying food in the first place or to the child's failure to eat supplied food.

III. OVERDETERMINED POSITIVE CAUSATION

It is commonly recognised that the usual legal test for causation—the necessary condition ('but for' or *sine qua non*) test—fails to reach the proper result in situations involving causal overdetermination—that is, when there is (or may be) more than one condition that would have been sufficient (in conjunction with other existing conditions) for the occurrence of the consequence on the particular occasion. A frequently mentioned situation involves two fires, each of which was sufficient by itself to destroy some property, which merge and destroy the property. Since neither fire—nor any possible alternative condition—was necessary given the existence of the other fire, the necessary condition test would result in the clearly erroneous conclusion that neither fire was a cause of the destruction of the property, which rather somehow mysteriously occurred without any cause.

To reach the correct result in situations involving causal overdetermination, some test other than the necessary-condition test must be used.¹⁴ In these situations the courts usually state that a condition was a cause if it was a 'substantial factor', made a 'material contribution', or simply 'contributed'.¹⁵ The words 'factor' and 'contribute' in each of these formulations merely restate the causal question without providing any test for resolving it. In the absence of any workable test, the unqualified contribution question—best posed as 'did it contribute, in even the most minimal way'—is an improvement on asking whether the condition was 'a cause' or 'the cause', since these latter formulations, especially the last,

¹⁴ An aggregate necessary-condition test would treat the two fires as a group as a cause, but it is over-inclusive. It would designate both fires as a cause even if one arrived first and preempted the other, and it would recognise causally irrelevant conditions as causes by including them with the two fires in the group being tested. A modified necessary-condition test, which asks whether the condition at issue was necessary for the occurrence of the consequence *at the time that it occurred*, would not be over-inclusive and would correctly identify more causes than the usual necessary-condition test. However, in many situations (including our two-fires case), it might be difficult to determine whether the condition at issue had any effect on the timing of the consequence, and the condition might still be a cause even if it had no effect on the timing. See Wright, *Once More*, above n 12, at 1114.

¹⁵ Eg, *March v E & MH Stramare Pty Ltd* (1991) 99 ALR 423 (HCA) (material contribution); *Athey v Leonati* [1996] 3 SCR 458 (materially contributed); *Sew Hoy & Sons Ltd v Coopers & Lybrand* (1996) 1 NZLR 392 (CA) (material contribution); *Fairchild v Glenhaven Funeral Services Ltd* (2002) [2003] 1 AC 32 (HL) (material contribution); *Kingston v Chicago & Northwestern Ry Co* 211 NW 913 (Wis 1927) (substantial factor); *Mitchell v Gonzales* 819 P 2d 872 (Cal 1991) (substantial factor).

commonly lead people to focus on only one of many contributing conditions—the most important one given their particular purpose or perspective—and thus import normative considerations into what should be a purely factual analysis. The ‘substantial factor’ and ‘material contribution’ formulations explicitly bring (unelaborated and unspecified) quantitative, qualitative, and normative considerations into the causal analysis, by requiring not merely a causal contribution but also that the contribution be ‘substantial’ or ‘material’. They thereby confound the factual issue of causal contribution with the normative issue of the extent of legal responsibility for tortiously caused consequences—a nonfactual policy issue that should be clearly recognised and analysed as such, rather than as an issue regarding factual causation.¹⁶

What test do people implicitly employ to reach the correct conclusion regarding causation in the situation involving two independently sufficient fires that merge and destroy the property? The answer is stated in the question: a test of sufficiency rather than necessity. Not sufficiency in the strict sense of the condition’s being sufficient by itself (it is doubtful that this is ever true), nor sufficiency in the trivial weak sense of merely being part of a set of conditions that is sufficient (this would treat anything as a cause, no matter how irrelevant it was to the sufficiency of the set), but rather sufficiency in the strong sense of being part of the complete instantiation of a set of conditions the specification of which includes only those conditions that are necessary for the sufficiency of the set.¹⁷ In causal analysis, the relevant set is the antecedent (‘if’ part) of a causal law. A causal law is a statement that describes an empirically derived relation between a set of conditions (called the antecedent) and a condition (called the consequent) such that the complete instantiation of all the conditions in the antecedent on a particular occasion is sufficient for the instantiation of the consequent, the instantiation of which occurs subsequent to (or perhaps simultaneously with) the instantiation of all the conditions in the antecedent.¹⁸ Thus, a condition was a cause of some consequence if and

¹⁶ Wright, above n 6, at 1742-50, 1781-84; Wright, above n 3, at 1012-14; Wright, *Once More*, above n 12, at 1073-80. This is true even if ‘material’ and ‘substantial’ are interpreted in a purely quantitative manner. Preclusion of liability is inappropriate when the contributing condition, although *de minimis*, was a necessary or independently sufficient condition, or when all the other contributing conditions also were *de minimis*. See *Restatement (Third) of Torts: Liability for Physical Harm (Proposed Final Draft No 1)* (2005) § 36 and comments a & b [*Draft Restatement Third*]; Wright, *Legal Responsibility*, above n 1, at 1449-50, fn 84.

¹⁷ Wright, above n 3, at 1020-21.

¹⁸ Causal laws have a direction or order of succession. The conditions specified in the antecedent of the causal law, when fully instantiated, are a cause of the occurrence of the condition specified in the consequent, but not vice versa. This directionality is incorporated in the proper sense of sufficiency: (being part of) the complete instantiation of the antecedent of the relevant causal law. It precludes supposed problems such as being able to treat the length of a shadow ‘cast’ by a flagpole as the cause of the flagpole’s height, on the ground that knowing the length of the shadow and the angle of the sun is sufficient to calculate the height

only if it was part of the complete instantiation of the antecedent of a causal law that specifies, as Mill stated, ‘the sum total of the conditions positive and negative taken together; the whole of the contingencies of every description, which being realised, the consequent invariably follows’.¹⁹

Our knowledge of ‘the sum total of the conditions’ in the antecedent of the causal law is based on experience and empirical investigation. To determine whether a condition really is part of a causal law—whether it is necessary for the sufficiency of the set of antecedent conditions in the causal law—scientists employ Mill’s Difference Method in carefully designed experiments to see if removing the condition makes a difference in the occurrence of the consequent.²⁰ Our knowledge of causal laws often is incomplete, and even when it is complete we rarely refer to completely specified causal laws. We rather employ causal generalisations, which are incompletely specified causal laws that have only as much specificity as is possible and needed to resolve the causal issue in the particular situation. For example, we usually refer to the causal generalisation that specifies that bringing a flame into contact with combustible material causes that material to burn, without referring to other necessary antecedent conditions such as the presence of oxygen or the absence of a soaking rain—unless the latter expected conditions did not exist in the particular situation or, conversely, existed but were not expected.

This conception of causation underlies the NESS (necessary element of a sufficient set) test for singular instances of causation that was first articulated by Herbert Hart and Tony Honoré,²¹ which I have refined, extended, and defended in several articles. Under the NESS test, a condition contributed to some consequence if and only if it was necessary for the sufficiency of a set of existing antecedent conditions that was

of the flagpole. See Richard Fumerton and Ken Kress, ‘Causation and the Law: Preemption, Lawful Sufficiency, and Causal Sufficiency’ (2001) 64(4) *Law & Contemporary Problems* 83, 93 (discussing this common example). The length of the shadow is the consequent of the relevant empirically derived causal law, rather than being part of the antecedent.

¹⁹ Above n 4, text at n 13.

²⁰ *Ibid.*, at bk III ch V s 3, ch VIII ss 1-4, ch X ss 1-3. It is often stated that, to be a cause, a condition must ‘make a difference’. Eg Hart and Honoré, above n 3, at 29, 34-35. This is true, but two possible implications must be avoided, as Hart and Honoré generally recognise. *Ibid.*, at 29, 112-13, 122-25; but see n 27 below. The first erroneous implication is that the caused situation must be different than the preexisting situation. In many cases, a condition causes the continuation of, rather than a change in, the preexisting situation—for example, the preservation of plant or animal life by the intake of food or water. In these (and all other) situations, the cause ‘makes a difference’ in relation to what would otherwise subsequently occur in its absence. The second erroneous implication is that the difference would not have occurred in the absence of the condition at issue. As is discussed in the text above, this is not true in situations involving causal overdetermination, in which the causal condition does not ‘make a difference’ by itself, but rather, as part of a group of causally relevant conditions.

²¹ HLA Hart and AM Honoré, *Causation in the Law* (Oxford, Oxford University Press, 1959) 105-7.

sufficient for the occurrence of the consequence. The relevant notion of sufficiency is the instantiation of each condition in the antecedent of the relevant causal law.²²

The necessary-condition ('but-for') test and the independently-sufficient-condition test, which usually are treated as distinct, alternative tests of causation,²³ are each simply corollaries of the NESS test. Rather than being the exclusive test of causation, as some have argued or assumed, the necessary-condition test works only as an inclusive test of causation, in situations in which (as is usually true) there was only one set of antecedent conditions that was or would have been sufficient for the occurrence of the consequence on the particular occasion, or, if there was more than one such set, the condition was necessary for the sufficiency of each of the sets. In such situations, the NESS test reduces down to the necessary-condition test. The independently-sufficient-condition test is similarly an inclusive rather than exclusive test, which works if the relevant necessary condition (eg, fire of a certain magnitude) in the fully instantiated antecedent of the relevant causal law is fully instantiated by the conduct or event at issue (eg, an actual fire of at least that magnitude). Implicit in the independently-sufficient-condition test is the requirement that the condition at issue be necessary for the sufficiency of the set of antecedent conditions. Without this requirement, totally irrelevant conditions could be treated as independently sufficient conditions merely by adding them to an already sufficient set of existing antecedent conditions.

The NESS test subsumes but is more inclusive than the necessary-condition test, the independently-sufficient condition test, or the combination of these two tests. For example, if fire of X magnitude is required to destroy a house, or water of X magnitude is required to overflow or burst a dam, or X drops of poison are required to kill a person, and each of three or more persons supplies one-half X of fire or water or poison, none of their individual contributions is either necessary or independently sufficient for the relevant injury, which, however, will occur if all the other necessary antecedent conditions in the relevant causal law have been instantiated. If we are limited to using the necessary-condition and independently-sufficient-condition tests, we must implausibly conclude that none of the individuals contributed to the relevant injury, which instead somehow mysteriously and spontaneously occurred. Under the NESS test, each individual's contribution is correctly found to be a cause, since it is necessary for the sufficiency of a set of actual antecedent conditions that includes only one of the other individuals' contributions. Alternatively,

²² Wright, above n 6, at 1788-1807; Wright, above n 3, at 1018-42; Wright, *Once More*, above n 12, at 1101-31; Wright, *Legal Responsibility*, above n 1, at 1440-51.

²³ Eg, *Restatement Second*, above n 5, at § 432; *Draft Restatement Third*, above n 16, at §§ 26, 27.

each individual's contribution is necessary for the sufficiency of a set of actual antecedent conditions that is described as including contributions by others of at least one-half X, which is itself an instantiated actual condition.²⁴

Contrary to what some have argued,²⁵ the NESS analysis in cases of causal overdetermination does not employ an unrealistic, counterfactual assumption that the existing conditions omitted from the description of the sufficient set of antecedent conditions did not actually exist. It rather ropes off the excluded actual conditions, without denying their existence, in order to determine whether the included, non-rope-off actual conditions were sufficient by themselves for the occurrence of the injury, by asking whether the included actual conditions constitute the complete instantiation of the antecedent of the relevant causal law.²⁶

Similarly, the necessity aspect of the NESS test and its 'but-for' test reduction do not result, as is commonly assumed,²⁷ in a counterfactual analysis of hypothetical other worlds or nonexistent situations. The focus in the analysis of factual causation is (or should be) not on what might have happened if things had been different, but rather on what actually did happen and why. The necessity analysis simply involves a matching of the

²⁴ Wright, above n 6, at 1792-94; Wright, *Once More*, above n 12, at 1106-7; Wright, *Legal Responsibility*, above n 1, at 1442-45; *Draft Restatement Third*, above n 16, at § 27, comments f, g & i. Hart and Honoré do not consider this type of situation, but rather, apparently limit 'causally relevant conditions' under their version of the NESS test to necessary or independently sufficient conditions. See Hart and Honoré, above n 3, at 112-13, 123-24, 206-7, 235-53. Fischer cites cases involving unnecessary and insufficient conditions that supposedly are inconsistent with the NESS test. See Fischer, 'Insufficient Causes', above n 3, at 278-79, 286-88. However, Fischer once again confuses the causal issue with the liability issue. In the cases that he cites, the courts acknowledge causal contribution but deny liability because the contribution was not sufficiently material or perceptible or because the injury or harm would have occurred anyway as a result of nonliable conditions. See Fischer, *Omission Cases*, above n 3, at 1344-60; Wright, *Once More*, above n 12, at 1121 fn 172.

²⁵ Eg, Fischer, *Omission Cases*, above n 3, at 1359, 1362; Fischer, *Insufficient Causes*, above n 3, at 303, 307-8; Mark Kelman, 'The Necessary Myth of Objective Causation Judgments in Liberal Political Theory' (1987) 63 *Chicago-Kent Law Review* 579, 602-6.

²⁶ Wright, above n 3, at 1035-42.

²⁷ Eg, Tony Honoré, *Responsibility and Fault* (Oxford, Hart Publishing, 1999) 102-7; see Wright, above n 6, at 1803-7. Honoré's arguments focus on determining whether the condition at issue 'made a difference' in a but-for sense, although at one point he acknowledges that the possibility that the injury may have occurred anyway would not affect a NESS condition's causal status but may affect the injured person's claim. Honoré, above, at 104; cf Wright, *Legal Responsibility*, above n 1, at 1434-67 (discussing the 'no worse off' limitation on the extent of legal responsibility for tortiously caused consequences). I once assumed that the necessity aspect of the NESS test required a counterfactual analysis, in part because I assumed that the necessity analysis had to be undertaken when assessing singular instances of causation, rather than having previously been addressed during the elaboration of the relevant causal generalisation. See Wright, above n 6, at 1803-4. However, I emphasised that the 'counterfactual' analysis should proceed not by a conjectural exploration of what might have happened in the absence of the condition at issue, but rather should focus on what actually happened by fitting the existing conditions into the applicable causal generalisations. Wright, above n 6, at 1804-7.

condition at issue against the required conditions in the antecedent of the relevant causal law, to see if it actually is part of the antecedent of the fully instantiated causal law. One way to do this is to exclude or rope off the condition being tested to see if the remaining included actual conditions encompass all of the required conditions in the antecedent of the relevant causal law. The other way is simply to ask if the actual condition being tested is a required condition in the antecedent of the relevant fully instantiated causal law.²⁸ Note that one of these two equivalent *sufficiency* analyses must be and is undertaken, implicitly if not explicitly, whenever the but-for test is used.

Indeed, as I have previously noted,²⁹ the necessity aspect of the NESS test for singular instances of causation is a heuristic rather than an essential analytic element of the test. The necessity aspect has already been taken care of in the (proper) formulation of the relevant causal laws, which include in their antecedents only those conditions necessary for the sufficiency of the antecedent, as determined through experience and scientific investigation. Our judgments regarding singular instances of causation do and must rely on this acquired knowledge of causal laws, even if the acquired knowledge is tentatively induced from the single experience at issue—for example, the first time a child burns its hand in a fire or on a hot stove.³⁰

Thus, the test for singular instances of causation could (and perhaps should) be stated as I initially stated it above, without any reference to necessity: a condition was a cause of some consequence if and only if it was part of the complete instantiation of the antecedent of a causal law that links the antecedent and the consequent.³¹ In the hypotheticals involving three or more individuals who each supply one-half of the fire, water, or poison required as a necessary condition in the antecedent of the relevant causal law, anyone who contributes to the instantiation of that necessary condition in the antecedent is a cause of the consequent if all the other conditions in the antecedent are also instantiated. It does not matter that the relevant condition was more than minimally instantiated—that more than enough fire, water, or poison was duplicatively or redundantly supplied—unless the excess supply somehow resulted in the failure (the lack of instantiation) of some other necessary condition in the antecedent of the causal law. The necessity aspect of the NESS test for singular instances of causation is merely a heuristic to try to ensure (1) that causally irrelevant conditions (conditions that do not match a condition in the antecedent of the relevant causal law) are not treated as causes and (2) that

²⁸ Wright, above n 3, at 1039-42.

²⁹ Wright, *Legal Responsibility*, above n 1, at 1445 fn 67; Wright, above n 3, at 1042.

³⁰ Wright, above n 3, at 1031-34.

³¹ Text at n 19.

we do not overlook preemptive causes, which prevent the antecedent of the relevant causal law from being fully instantiated.

The same analysis applies to reasons for action or inaction. Although a certain reason may not have been necessary or independently sufficient for some decision, it contributed to that decision if it was considered by the decision maker and it counted positively, rather than negatively or not at all, in favour of the decision.³² Some theorists argue that volitional human actions, unlike physical events, are neither subject to nor explainable in terms of causal generalisations. Hart and Honoré acknowledge that generalisations apply to human action, but they deny repeatability in (what they assume to be) identical circumstances. They treat human actions as being 'induced' by provided reasons or information or 'occasioned' by provided opportunities rather than being caused, and as involving a 'causal connection' only in a metaphorical or 'near-causal' sense.³³ However, with human actions as with physical events, if *all* the relevant conditions (accumulated experience and knowledge, beliefs, goals, mood, and so forth) were the same, surely the decision or action would also be the same. To assert otherwise is to assert that human action is random or arbitrary. Human action is less regular and predictable than physical events because humans learn from prior experiences and new information, the range of relevant conditions is much broader, and the applicable causal generalisations are much more complex and less well understood.³⁴

Understanding that sufficiency in causal analysis means (being part of) the complete instantiation of the antecedent of the relevant causal law is critical for distinguishing situations involving causal duplication from situations involving causal preemption. In the situation involving two fires, each sufficient to burn down a house if it reaches the house, suppose that one of the fires reaches the house and burns it down before the other fire arrives. Clearly, the first fire caused the destruction of the house; the second fire did not. Yet, empirically, the destruction of the house was guaranteed by the second fire, whether or not the first fire existed; this is why the but-for test (erroneously) fails to treat the first fire as a cause of

³² Wright, above n 3, at 1037; see Fischer, *Insufficient Causes*, above n 3, at 286 fn 39 (citing two illustrative cases).

³³ Hart and Honoré, above n 3, at 22-23, 51-52, 55-57, 60-61; Honoré, above n 27, at 2-3, 96, 116-19.

³⁴ See generally Tom L Beauchamp and Alexander Rosenberg, *Hume and the Problem of Causation* (Oxford, Oxford University Press, 1981) 314-27; John Mackie, *The Cement of the Universe* (Oxford, Oxford University Press, 1974) 120-26; Michael Moore, 'Causation and the Excuses' (1985) 73 *California Law Review* 1091, 1112, 1124-27, 1132-37; Honoré, above n 27, at 117. Viewing human action as causally determined is not incompatible with free will, given the very complex and goal-directed nature of human decision-making. Conversely, the presence of a random or probabilistic element in human decision-making would not undermine the concept of causation or make it impossible to provide causal explanations of human actions. See Wright, above n 3, at 1028-31.

the destruction of the house. Some theorists sometimes assume that the guaranteed occurrence of the consequence is the sense of sufficiency employed in the NESS test or proper causal analysis.³⁵ If this were true, the second fire as well as the first should be treated as a cause of the destruction of the house, a second collapsed bridge further downstream as well as the first collapsed bridge should be treated as a cause of the delay of a ship travelling down a river, or a person's drinking a deadly but slow poison for which there is no antidote as well as being fatally shot immediately after drinking the poison should be treated as a cause of the person's death. But none of these conclusions would be correct. Although the relevant consequence may be guaranteed to occur, it is not guaranteed that it will occur as a result of the condition that gave rise to the guarantee; it may instead result from some other condition that preempts and frustrates the causal process associated with the condition that gave rise to the guarantee.

To be a cause, the condition at issue must be part of the complete instantiation of the antecedent of the relevant causal law (usually in its incompletely specified form as a causal generalisation). Only the first fire was part of the complete instantiation of the antecedent of the fire-destroys-house causal generalisation, which requires, among other things, that the fire reach the house while it is still standing (undestroyed). That necessary condition in the antecedent of the relevant causal law was instantiated for the first fire, but not for the second fire. Similarly, assuming that the ship went down the river as far as it could before having to stop, only the first downstream collapsed bridge was part of the complete instantiation of the river-blockage-stops-ship causal generalisation, which requires, among other things, that the ship reach the blockage and either physically run into it or be stopped by the captain when he sees the blockage. Those necessary conditions in the antecedent of the relevant causal laws were instantiated for the first collapsed bridge, but not for the second. The only way that the second collapsed bridge could be a cause of the ship's stopping is if the captain learned of it first and decided, based on that knowledge, to stop immediately rather than continuing down the river as far as the ship could go before stopping. The antecedent of the death-by-shot causal generalisation was fully instantiated, but the antecedent of the death-by-slow-acting-poison causal generalisation was not. The latter generalisation requires, among other things, that a certain amount of

³⁵ See, eg, Fischer, *Insufficient Causes*, above n 3, at 310; Stapleton, *Perspectives*, above n 11, at 83, fns 56-57, 84, fns 62-63. Even Hart and Honoré occasionally confuse these two issues. See Hart and Honoré, above n 3, at 239-40, 246-48, 250-51.

time elapse after the swallowing of the poison in order for the poison to cause death, but that necessary condition did not occur.³⁶

Understanding that a condition was a cause of some consequence if and only if it was part of the complete instantiation of the antecedent of a causal law that links the antecedent and the consequent also enables one to understand the requirements for proper proof of causation and the methods that lawyers should and do employ to make persuasive arguments regarding causation in a particular situation. Lawyers argue competing causal stories, which are simply descriptions of the relevant causal generalisations. They build up a causal story by introducing particularistic evidence of the actual existence on the particular occasion of the necessary conditions in the antecedent of the relevant causal generalisation. The more complete their proof of the instantiation of all the conditions in the antecedent of the causal generalisation is, the greater is the *ex post* probability that their causal story is the correct one. They undermine a causal story by introducing evidence that one or more necessary conditions in the antecedent of the causal generalisation did not exist on the particular occasion. Conclusive proof of the nonexistence of even a single necessary condition reduces the *ex post* probability of the causal story to zero, regardless of how great its *ex ante* mathematical probability, based on its general frequency of occurrence, might have been.³⁷ As the court in *Day v Boston & Maine RR* stated:

Quantitative [*ex ante*] probability, however, is only the greater chance. It is not proof, nor even probative evidence, of the proposition to be proved. That in one throw of the dice there is a quantitative probability, or greater chance, that a less number of spots than sixes will fall uppermost is no evidence whatever that in a given throw such was the actual result. Without something more, the actual result of the throw would still be utterly unknown. The slightest real [particularistic instantiation] evidence that sixes did in fact fall uppermost would outweigh all the probability otherwise.³⁸

Such *ex ante*, frequency-based causal probabilities or, even worse, naked statistics unrelated to causal generalisations—for example, a 75% probability that my dog bit someone because I own 75% of the dogs in the

³⁶ Jane Stapleton agrees with this particular conclusion, but inconsistently argues in the similar desert-traveller hypothetical—in which A poisons the traveller's only water supply, B dumps the poisoned water out of the cask before the traveller drinks any of it, and the traveller dies of thirst in the desert—that A is a cause of the traveller's death, since the traveller was bound to die once the water was poisoned. See Stapleton, *Perspectives*, above n 11, at 83-84, criticised in Wright, *Once More*, above n 12, at 1115-18. For further discussion, see text following n 49.

³⁷ LJ Cohen, *The Probable and the Provable* (Oxford, Oxford University Press, 1977) 248-55.

³⁸ 52 A 771 (Maine 1902) 774. For a similar statement, which emphasises the need to induce a minimal belief in the proposition to be proved, see *Smith v Rapid Transit, Inc* 58 NE 2d 754 (Mass 1945).

area—cannot properly be used to establish actual causation in a particular situation. Instead, what is required is concrete, particularistic evidence of the actual instantiation of the consequent and all the necessary conditions in the antecedent of the relevant causal generalisation. Such particularistic evidence builds up, lowers, or zeroes the ex post probability that the purported causal story is true. When the ex post probability for one causal story is sufficiently great and the ex post probability for any competing causal story is sufficiently low, a belief, with varying degrees of strength depending on the weight of the evidence, is formed in the truth of the first causal story. Contrary to what is unreflectively assumed by a great many lawyers and courts, the civil standard of proof by a ‘preponderance of the evidence’, properly understood, does not simply require a mere 50+% ‘more likely than not’ ‘balance of probability’, even when the probabilities involved are ex post probabilities based on particularistic evidence of the instantiation of the relevant causal law. Instead, proof by a preponderance of the evidence requires (or should require) that the particularistic evidence of instantiation of the relevant causal law induce a minimal ‘bare preponderance’ belief in the truth of the particular causal story.³⁹

My insistence on a clear understanding of the concept of causation and of what constitutes adequate proof of causation should not be confused with a position that I do not advocate: that liability should never be imposed in the absence of proof of actual causation. Although liability despite disproof of causation is, in my view, unjust and hence improper,⁴⁰ there are good reasons as a matter of justice to impose proportional or even full liability in some situations in which the defendant’s wrongful conduct may have caused some or all of the plaintiff’s injury, but it is impossible for the plaintiff to prove that such causation occurred. If liability is imposed in such cases, it is best conceived as liability for the actual injury based on ‘second-best’ causation doctrines, such as shifted burdens of proof or liability in proportion to the probability of causation, rather than (as I once argued) being liability for the imposition of risk, even if liability for the imposition of risk is limited to situations in which actual injury occurred.⁴¹ As always, proper resolution of the normative liability issue is more likely if the uncertainty over actual causation is explicitly recognised and acknowledged.

The ‘decision causation’ cases discussed by Vaughan Black, in which resolution of the causal issue requires evaluation of what a person subsequently would have decided if the defendant had not behaved

³⁹ Wright, above n 3, at 1042-67.

⁴⁰ Wright, Legal Responsibility, above n 1, at 1430-31.

⁴¹ See, eg, *Holtby v Brigham & Cowan (Hull) Ltd* [2000] 3 All ER 421 (CA); Wright, above n 6, at 1813-26; Wright, above n 3, at 1067-77.

tortiously,⁴² often raise such policy issues. These cases, unlike the situations discussed above in which there was an actual decision and the issue is whether some prior condition contributed to that decision,⁴³ do require a hypothetical, counterfactual inquiry—an inquiry into what decision *would* have been made if the defendant had not behaved tortiously. Thus, while Black is correct in arguing that the causal issues in these cases are not necessarily more difficult to evaluate than the causal issues in other types of cases, which also can involve difficult, structurally embedded proof problems due to incomplete scientific knowledge about the causal processes involved, I believe he is incorrect in arguing that there is not a significant difference between decision-causation cases and other cases. The significant difference is the necessity of employing hypothetical, counterfactual analysis.

The most common decision-causation cases are those involving a defendant's tortious failure to provide a safeguard (device, information, or warning), in which, as we have noted, the courts view the dispositive causal issue as whether, if the safeguard had been provided, the person to whom the safeguard should have been provided would have decided to act (or not act) in a certain way, which would have prevented the injury that occurred. If he would have, the failure to provide the safeguard was a necessary condition for and hence a but-for (negative) cause of the injury. If he would not have, the failure to provide the safeguard was not a cause, but rather—as is discussed in part IV below—was preempted by the fact that there would have been no attempt to use the safeguard.⁴⁴ Courts reasonably could decide in these cases to shift the burden of proof on whether the safeguard would have been used to the defendant,⁴⁵ or to impose proportional liability based on the probability that the safeguard would have been used.

IV. OVERDETERMINED NEGATIVE CAUSATION

As was discussed in part II above, a negative cause of some consequence X is a condition that contributes in a negative manner to the occurrence of X through causal process A by causing the failure of a distinct causal process B that, if it had occurred, would have prevented the occurrence of X by causing the failure of causal process A. A negative cause of X is an instantiation of a negative condition—the absence of a preventing

⁴² See Vaughan Black, 'Decision Causation: Pandora's Tool-Box' ch 12.

⁴³ Text at nn 32-34.

⁴⁴ Text at nn 8-9.

⁴⁵ See Fischer, Omission Cases, above n 3, at 1355-56.

cause—in the completely instantiated antecedent of the causal generalisation for causal process A. This negative condition in causal process A is instantiated by the *failure* of causal process B, which occurs if one of more of the necessary positive conditions in causal process B was *not instantiated*.

If more than one condition in causal process B was not instantiated, the failure of causal process B to occur was overdetermined. To determine which of the non-instantiated conditions actually caused (rather than merely guaranteed) its failure,⁴⁶ we need to determine whether the multiple non-instantiated conditions had a duplicative causal effect or, instead, one or more of them preempted the potential causal effect of the others. However, we cannot do this in the same way that we determine duplication versus preemption for positive causal effects, by asking whether each of the conditions at issue was part of the complete instantiation of the antecedent of the relevant causal law. Instead, when determining which absent conditions had the negative causal effect of causing the failure or non-occurrence of a causal process rather than its successful completion, we must analyse the sequencing and possible interdependency of the necessary conditions in the antecedent of the relevant causal law for the failed causal process.⁴⁷

Consider a situation in which there was sufficient time to brake to stop a car before it hit some object. The braking-stops-car causal process, if it occurs, is a positive preventing cause that prevents the successful completion of the moving-car-hits-object-in-path causal process. When the brake pedal is depressed and the car subsequently stops, we infer from those two facts alone, which are instantiations of the consequent and a single condition in the antecedent of the braking-stops-car causal generalisation, that all of the very many conditions in the antecedent of that generalisation and its underlying causal laws were instantiated.

If the brake pedal is not depressed, but the brake system was working properly, the failure to depress the brake, which is a necessary condition in the antecedent of the braking-stops-car causal generalisation, is a but-for cause of the non-occurrence of the braking-stops-car causal process. ‘Non-occurrence’ seems more appropriate than ‘failure’ here since the causal process was never initiated. Conversely, if the brake pedal is depressed and the car fails to slow and stop, the braking-stops-car causal

⁴⁶ See text at nn 35-36; text following n 49.

⁴⁷ Wright, *Once More*, above n 12, at 1128-31. Fischer’s discussions of overdetermined negative causation fail to appreciate (1) the difference between guaranteeing a result and causing that result, (2) that the focus in negative causation is on the failure of the preventive causal process rather than on the successful complete instantiation of the unprevented causal process, and (3) that a different type of analysis (employing the same basic NESS concept of causation) is needed to determine what caused the failure rather than the success of a causal process. See Fischer, *Insufficient Causes*, above n 3, at 309-10.

process was initiated but was not completed; it failed. We infer that it failed as a result of something wrong with the braking system—that is, that there was at least one non-instantiated condition in the antecedent of the causal generalisation for the working of the braking system. If there was only one non-instantiated condition, its non-instantiation was a but-for cause of the failure of the braking system.

If there was more than one non-instantiated condition in the antecedent of the causal generalisation for the working of the braking system—for example, the lack of a bolt connecting the brake pedal to the lever rod between it and the master cylinder and the lack of sufficient hydraulic fluid in the master cylinder—the failure of the braking system was overdetermined. It was even more overdetermined if, as alleged in *Saunders*,⁴⁸ the driver did not attempt to use the brakes by (timely) depressing the brake pedal. Each of these non-instantiated conditions independently guarantees the non-occurrence or failure of the braking-stops-car causal process, but only the failure to attempt to use the brakes had an actual negative causal effect. The failure to attempt to use the brakes preempted the potential negative causal effect of the other non-instantiated conditions in the braking-stops-car causal process.

This conclusion is based on our knowledge of the sequence of events that must take place for the occurrence of the braking-stops-car causal process, which actually is a complex combination of a large number of more discrete causal processes, each of which is dependent for its occurrence on the occurrence of prior stages in the causal sequence. Some of the necessary events, in order of occurrence, are: (1) the driver's applying force to depress the brake pedal; (2) the depression of the brake pedal operating a lever to put pressure on the hydraulic brake fluid in the master cylinder; (3) the pressure in the brake fluid being transmitted through pipes and tubes to the brake cylinders; (4) the pressure in the brake cylinders pushing braking pads against the rotating brake drum or disc in the wheel assembly; and (5) the friction created by such contact slowing and stopping the rotation of the wheels. Each of these stages of the braking-stops-car causal process, which occur in sequence, is itself a causal process; each has its own set of necessary antecedent conditions, most related to the structure and integrity of the mechanical, hydraulic and electrical components of the various parts of the braking system.

The failure of any prior stage in the sequence of events prevents the causal process from proceeding any further in the sequence of dependent events. It thus preempts the potential negative causal effect of any non-instantiated conditions in subsequent stages, which would have caused the causal process to fail if it had proceeded that far. When the very first

⁴⁸ Above n 7.

event, the driver's depressing the brake pedal, does not occur, the causal process fails—actually never gets started—at that point in the causal sequence. The causal process does not get as far as stage (2), although if it had gotten that far, it would then have failed due to the missing bolt connecting the brake pedal to the lever, which would have preempted the potential negative causal effect of the insufficient brake fluid in the master cylinder, which in turn would have caused the causal process to fail at stage (3) if the causal process had proceeded that far.

A contrary conclusion is based on the erroneous idea, discussed above,⁴⁹ that a condition was a cause of some consequence merely because it guaranteed that the consequence would occur. Poisoning a person's only source of water guarantees that she will die, but not that she will die as a result of the poisoning of the water; an intervening event, such as the shooting of the person or the emptying of the water container, may occur and preempt the potential positive causal effect of death by poisoning. The collapse of a bridge on a river guarantees that a ship coming down the river will be delayed, but not that the delay will be caused by the collapse of the bridge; an intervening event, such as the ship's engine failing or the ship's running aground or encountering another collapsed bridge further upstream, may occur and preempt the potential positive causal effect of the collapse of the bridge further downstream. Similarly, a defect in the braking system, such as the missing bolt or the insufficient brake fluid, guarantees that the braking system will not work, but not that the defect will be a cause of the braking system's not working; an intervening event, the failure to attempt to use the brakes by pressing down on the brake pedal, may occur and preempt the potential negative causal effect of the defect in the braking system.

Duplicative as well as preemptive negative causation can occur. For example, if one mechanic put insufficient hydraulic brake fluid into the master cylinder for it to work and another failed to seal it properly so that whatever fluid was in it would leak out, their respective omissions, which negate required positive conditions for the occurrence of stage (3) of the braking-stops-car causal process, are duplicative negative causes of the failure of the braking system to work, due to the non-occurrence of stage (3), when the brake pedal is subsequently depressed. Hart and Honoré describe two similar situations:

[S]uppose that two switches need to be turned off in order to avert a fire, and that *X* has a duty to turn off one, *Y* the other [but] neither does so and a fire which would have been averted had they both performed their duty breaks out Suppose, again, that a house can be built and profitably sold only if *X* delivers bricks and *Y* mortar [but] both default in delivery so that the projected

⁴⁹ Text at nn 35-36.

house cannot be built and sold . . . [L]awyers and ordinary people would agree in saying, in these cases of concurrent failure to intervene in a physical process or to provide opportunities for gain, that the omission of each is causally relevant to the ensuing harm and that each could in a proper case be held responsible for it.⁵⁰

In each of these situations, the dual omissions that overdetermine the failure of the causal process at issue are assumed to occur in the same stage of that causal process, rather than in different stages of a sequenced process in which the occurrence of subsequent stages depends on the prior occurrence of the previous stages. Although the building of a house occurs in sequential, dependent stages, the bricks and mortar are used together simultaneously in the same stage in the same causal process of mortaring and laying bricks. The required use of one material is dependent on the simultaneous rather than the prior use of the other material. The absence of either material results in the failure of the house-building causal process at the brick-laying stage. The simultaneous absence of both overdetermines the failure of the brick-laying stage for the duration of their simultaneous absence; there is duplicative negative causation. If instead there was a simultaneous failure to deliver concrete for the foundation and lumber for the framing of the house, the failure to deliver the concrete, which results in the failure of the house-building causal process at the foundation-building stage, preempts the potential negative causal effect of the failure to deliver the lumber, which is not needed until the subsequent framing stage, the occurrence of which depends on the prior occurrence of the foundation-building stage.

The two-switches hypothetical is insufficiently described. Assume that the fire resulted from overheating of a wire in an electrical circuit because the electrical load on the circuit was too great, that each of the two switches independently controls a different operating appliance (a subcircuit) on the same circuit, and that both switches must be turned off to reduce the load on the main circuit to a safe, non-fire-generating level. Neither the operation of each switch nor its effect on the main circuit's load is dependent on the operation of the other switch. Instead, turning on each switch initiates a distinct positive causal process—the operation of the associated appliance with its particular load on the main circuit—that is not affected by the operation of the other switch. The failure to turn off each switch is a duplicative negative cause of the overloading of the main circuit and hence of the fire, for which the overloading of the main circuit is a necessary positive condition.

If the two switches control the same appliance, which operates and overloads the circuit as long as at least one of the switches is on, the

⁵⁰ Hart and Honoré, above n 3, at 128; see also at 236.

analysis is somewhat different but the conclusion is the same. If only one switch is on, it is a but-for positive cause of the operation of the appliance and of the fire. If both switches are on, they are duplicative independently sufficient positive causes of the operation of the appliance and of the fire (although only the first switch to be turned on *initiated* the operation of the appliance). As before, neither switch's operation affects the operation of the other switch or the effect of the other switch as a positive cause of the operation of the appliance. The only difference is that, in this scenario, turning one switch off will not have the effect of turning the appliance off unless the other switch also is off, but, as in the two-appliance scenario, it does not matter whether one is turned off before the other or if they are turned off simultaneously; not until they are both turned off will the appliance's operation (and the circuit overload) be terminated. Thus, the failure to turn off either switch is a duplicative negative cause of the circuit's being overloaded and the resulting fire.

V. CONCLUSION

Debates over the meaning and role of causation in attributions of legal responsibility are hardly new. However, the debates have been much more widespread and urgent in recent years, as advances in science combined with mass production and distribution of products have created an expanding number of risks and harms, which, however, are often difficult to attribute to specific actors. In the current debates, as in past debates, considerable confusion—and sometimes bad legal results—have been generated by the failure of many courts, lawyers, and theorists to clearly distinguish the issue of factual causation from the issue of legal responsibility, for which a finding of factual causation (or at least the possibility of factual causation) remains a necessary but not sufficient prerequisite. Difficult normative issues of proper legal responsibility have gone unrecognized or been ignored by, on the one hand, judicial findings of 'no causation' (and thus no liability) when factual causation clearly existed in the particular situation and, on the other hand, judicial findings of 'causation' (and thus full liability) when only the probability or even mere possibility of factual causation could be established. The necessary first step in clear thinking about legal responsibility is to isolate and clarify the concept of factual causation and the requirements for establishing factual causation in particular situations. This chapter is an attempt to contribute to that understanding.

