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# ***The Utility of the NESS Test of Factual Causation in Scots Law***

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## *Abstract*

*It is well accepted in Scots law that, in order for a delictual claim to be successful, the pursuer must establish factual causation. In most cases, he or she will have to satisfy the 'but for' test, however because this can lead to harsh results the courts have sometimes adopted a more relaxed approach to causation. Thus, there are various exceptions to the general rule (namely the 'but for' test) including the 'material contribution' test adopted in *Wardlaw v Bonnington Castings Ltd*.<sup>1</sup> This article seeks to challenge the current Scots law approach to causation and to consider the merits of replacing the 'but for' test, along with the various exceptions thereto, with a single test of factual causation known as the NESS test. It will be contended that there are three main 'criteria' against which the utility of a causation test can be gauged and, with close reference to these 'criteria', it will be argued that the current Scots law approach to factual causation is inadequate. This article concludes that NESS satisfies all three 'criteria' and hence constitutes a promising alternative to the current law; one that the Scottish courts would do well to consider.*

## *1. Introduction*

In a 1985 article,<sup>2</sup> Richard Wright propounded the NESS test of factual causation. Building on the work of Hart & Honoré, who had developed a largely identical test,<sup>3</sup> and Mackie,<sup>4</sup> Wright argued that a cause in fact should be defined as a necessary element in a sufficient set (hereinafter a 'NESS'). Since then, NESS has become a very significant issue in American academic spheres, with even the test's most ardent critics calling it the '(...) new supplement to the but-for test for the twenty-first century.'<sup>5</sup> It has also been said that scholarship surrounding NESS is the 'most

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<sup>1</sup> *Wardlaw v Bonnington Castings Ltd* 1956 SC (HL) 26 (hereinafter '*Wardlaw*').

<sup>2</sup> R Wright, 'Causation in Tort Law' (1985) 73 California Law Review 1735, 1788-1803.

<sup>3</sup> HLA Hart & AM Honoré, *Causation in the Law* (1st edn, Oxford University Press 1959) 104-108, 116-119, 216-229 (as cited in J Stapleton, 'Choosing what we mean by "causation" in the law' (2008) 73 Missouri Law Review 433, 459).

<sup>4</sup> JL Mackie, *The Cement of the Universe: A Study of Causation* (Clarendon Press 1974) chapter 3 (as cited in R Wright, 'The NESS Account of Natural Causation: A Response to Criticisms,' in R Goldberg (ed), *Perspectives on Causation* (Hart Publishing 2011) 288).

<sup>5</sup> DA Fischer, 'Insufficient Causes' (2005-2006) 94 Kentucky Law Journal 277.

successful influential work in this area [tort/delict]'.<sup>6</sup> Although it does not appear that NESS is currently used in American judicial practice, its prominence in American legal discourse cannot be denied.<sup>7</sup>

Such enthusiasm is not shared in Scotland. Although there are some UK academics who champion NESS,<sup>8</sup> for the most part, the test rarely features in academic writings on delict. Indeed, it may be fair to say that, outwith American academic circles, there is a general indifference towards the test. As Hogg recently remarked, an internet search of 'NESS' will yield plenty of results concerning Loch Ness but hardly any relating to its causal namesake.<sup>9</sup> Such apathy may, however, be unwarranted. In recent years, Scotland, and indeed the UK as a whole, has struggled with causation. The standard 'but for' test leads to unfair results and the various exceptions introduced to redress the harshness of the general rule, for instance the notorious '*Fairchild*' exception,<sup>10</sup> have rendered the law of causation unprincipled and chaotic. Herein lies the potential appeal of NESS.

With the difficulties with the current law on causation in mind, the purpose of this article is to investigate the potential utility of NESS in Scots law. Part II will demonstrate why the current state of factual causation is unsatisfactory. Part III will then assess whether NESS is a rational test and, although the issues raised here may seem theoretical, they will all bear heavily upon the question of NESS' practical benefits and drawbacks. Part IV will focus on the practical utility of NESS. Throughout, but especially in Parts II and IV, reference will be made to various criteria for an ideal test of factual causation. By assessing the extent to which NESS complies with these criteria, it will be possible to evaluate the test's practical utility.

It is important to underline that NESS is a test of *factual* causation. Typically, once the pursuer in a delictual claim has proven that the defender was in breach of a duty of care, he or she will have to establish that the defender's wrongdoing was a factual cause of his or her loss.<sup>11</sup> This is an empirical enquiry, divorced from normative considerations. As such, it must not be confused with legal causation, an enquiry which does not really concern causation at all but rather issues such as whether the defender, despite having factually caused the pursuer's injury, should

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<sup>6</sup> R Fumerton and K Kress, 'Causation and the Law: Preemption, Lawful Sufficiency and Causal Sufficiency' (2001) 64:4 Law and Contemporary Problems 83, 83.

<sup>7</sup> In his most recent article regarding the test, Wright refers to various commentators, including the American Law Institute and several academics, who have attested to the merits of the NESS test. However, he does not cite any examples of the NESS test being expressly employed by the courts. See Wright, 'The NESS Account of Natural Causation: A Response to Criticisms' (n 4) 285.

<sup>8</sup> Most notably Martin Hogg and Chris Miller. See especially: M Hogg, 'Developing Causal Doctrine' in Goldberg (n 4) & Chris Miller, 'NESS for Beginners' in Goldberg (n 4).

<sup>9</sup> *ibid* (Hogg) 43.

<sup>10</sup> *Fairchild v Glenhaven Funeral Services Ltd* [2003] 1 AC 32 (hereinafter '*Fairchild*'). For a detailed discussion of this case, see part II below. Note that, although this was an English appeal to the House of Lords, it is all too relevant to the Scots law of causation. This is because, unlike other areas of law, the Scots law of delict and the English law of torts have much in common. A famous example of this is the case of *Donoghue v Stevenson* [1932] AC 562, a landmark decision for both Scots law and English law relating to another area of delict: duty of care. Note further that, in *Fairchild*, reference was made to *McGhee v National Coal Board* [1973] 1 WLR 1 (hereinafter '*McGhee*') and *Wardlaw* (n 1), both of which were Scottish appeals to the House of Lords. Thus, as far as causation in delict/tort is concerned, there is much overlap between English and Scots law.

<sup>11</sup> J Thomson, *Delictual Liability* (Tottel Publishing Ltd 2009) 139.

nevertheless not be held liable for unforeseeable consequences of the breach.<sup>12</sup> Therefore, for the avoidance of ambiguity, all subsequent references to ‘causation’ will denote the non-normative concept of factual causation. Although some commentators,<sup>13</sup> are of the view that causation cannot be separated from normative considerations, and that its meaning varies according to legal context, it will be assumed, for present purposes, that some rationale exists for having a single, non-normative test of factual causation; that the factual-legal causation dichotomy is preferable to Lord Hoffmann’s proposed alternative. The purpose of this article is not simply to assess NESS in the void, but its utility as a *test of factual causation*.

## *2. Does Scots Law Need a New Test of Factual Causation?*

In assessing the adequacy of Scots law’s current approach to factual causation and the possible need for reform, the following issue demands careful examination: what makes a ‘good’ test of causation? A search for the relevant criteria invites consideration of a further issue, namely the purpose of causation. This part will therefore begin by considering the purpose of causation, then, once it has been established *why* Scots law requires causation as a prerequisite to a successful delictual claim, it will be possible to infer various criteria against which to evaluate the current law.

### *A. The ‘Three Criteria’*

In Schroeder’s view,<sup>14</sup> there is no justifiable reason for the causation enquiry; no principled basis upon which to hold that, if both X and Y are negligent, but only Y’s wrong *causes* Z loss, Y alone is liable. In all normatively relevant respects, X and Y are in the same position: both are in breach of a duty of care owed to Z. However, because of something as ‘fortuitous’ as causation, they are treated differently.<sup>15</sup> In short, as a basis for deciding whether a delictual claim should succeed or fail, causation has about as much moral legitimacy as the roll of a dice.

This is not to suggest, however, that causation serves no purpose. Certainly, the doctrine seems to lack a sound, principled basis but it could still be rationalised as a matter of policy. Arguably, the requirement to establish causation derives from a ‘floodgates’ policy whereby the law attempts to limit the category of persons who can be held liable to the pursuer.<sup>16</sup> This is not to be confused with doctrines such as

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<sup>12</sup> *Sayers v Harlow Urban District Council* [1958] 2 All ER 342, [1958] 1 WLR 623 CA.

<sup>13</sup> See especially, Rt Hon Lord Hoffmann, ‘Causation’ in Goldberg (n 4) 9.

<sup>14</sup> CH Schroeder, ‘Causation, Compensation and Moral Responsibility’ in DG Owen (ed) *Philosophical Foundations of Tort Law* (Clarendon Press 1995) 349.

<sup>15</sup> *ibid.*

<sup>16</sup> This sort of ‘floodgates’ policy has featured in other areas of the law of delict/tort. Consider, for example, the case of *Alcock v Chief Constable of South Yorkshire Police* 1992 1 AC 310. In that case, the House of Lords imposed various limitations on the category of persons who could claim for psychiatric injury suffered as a result of witnessing the Hillsborough disaster. For example, in order for a secondary victim to claim for psychiatric injury, it would be necessary for that person to establish that he or she had been present at the accident or its immediate aftermath. These rules were used by

duty of care, which limit the scope of the defender's liability by reference to normative considerations. Factual causation does not impede an otherwise successful claim on the basis of normative considerations. Rather, if only for expediency's sake, the law has seen it fit to 'draw a line' after which one cannot be liable. To do this using causation may be morally arbitrary but, since causation is an empirical fact the existence or non-existence of which is easily verified, the line is at least well-defined. The division between those who have a claim and those who do not may be arbitrary but it is also clear-cut.

When the purpose of factual causation is viewed in this way, various criteria for a suitable test can be inferred. For a start, if causation is meant to limit liability then an effective test will represent a meaningful bar to certain claims for, if causation becomes too easy to establish, the very purpose of the causal enquiry will be undermined. For ease of reference, this criterion will be termed 'limiting liability'.

In addition, since a clear line must be drawn between those defenders who caused the pursuer harm and those who did not, the causation test must guarantee consistency in the law and that like cases are treated alike. Theoretically, if multiple judges apply the test to a particular set of facts, they should all reach the same conclusion. To that end, the causation test should be simple, objective and unambiguous. If judges can depart from the usual test on grounds of fairness, inconsistencies will abound and the clear line that the causation enquiry strives to draw between claimants will be blurred. This requirement will be referred to in this article as 'clarity and consistency'.

It is proposed here that the third criterion for a useful causation test is fairness. Of course, this requirement is not absolute because, as explained above, the primary function of causation is to limit the scope of liability in a clear-cut way, even when that results in injustices. However, insofar as this primary function allows, the test must not be unduly harsh on the pursuer; it must not be so stringent as to never establish causation, barring liability in nigh every case. In this way, the test should recognise a fairly broad category of causation.

## B. Does the 'But For' Test Satisfy the 'Criteria'?

In order to establish factual causation in Scots law, the pursuer must demonstrate that there is a link between the defender's breach of duty and the injury sustained. In other words, the court must be satisfied that, 'but for' the defender's wrongdoing, the pursuer's injury would not have occurred.<sup>17</sup> In most cases, the 'but for' test is

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the House of Lords to limit the extent of the defendants' liability and one of the policies underlying them was the notion that, if liability were not restricted, the 'floodgates' of litigation might be opened (see, for instance, Nolan LJ's comments at [383]). Although *Alcock* did not concern causation, but rather the requirement to establish a duty of care, the case is a telling illustration of how arbitrary limits on the scope of liability are often underpinned by 'floodgates' considerations. It is submitted here that the same sort of 'floodgates' policy invoked in *Alcock* may also account for the requirement to prove causation; a requirement which is, like the rules in *Alcock*, an arbitrary, non-normative restriction on liability.

<sup>17</sup> A classic example of this test being applied is the case of *McWilliams v Sir William Arrol* [1962] 1 WLR 295, 1962 SC (HL) 70, in which it was held that the defenders' failure to provide a steel erector

perfectly capable of meeting the law's needs. For a start, it is fairly strict. In demanding causation as a matter of necessity, the test represents a decisive obstacle to many claims. The 'but for' test also offers the benefits of objectivity and clarity. Whether X's breach was necessary for Y's loss is often a fairly clear-cut issue and one on which judges seldom differ. Decisions such as *Kay's Tutor v Ayrshire and Arran Health Board*<sup>18</sup> may appear harsh at first sight,<sup>19</sup> but it must be remembered that causation's primary purpose is not to achieve fair results but certain ones; results that limit the scope of liability in a clear, effective manner. Applied consistently to each case, the 'but for' test serves this purpose well.

Nevertheless, insofar as this does not compromise the 'limiting liability' criterion, a causation test should still be fair, and it is in this regard that the 'but for' test is unsatisfactory. If, for example, two hunters (H1 and H2) simultaneously shoot a hill-walker,<sup>20</sup> H1's gunshot cannot be deemed necessary for the walker's death because H2 would have killed him anyway and, since H2's gunshot cannot be deemed necessary either, the 'but for' test holds that neither gunshot was a cause.

The test also struggles with causal indeterminacy, a problem that manifested itself clearly in *Fairchild*.<sup>21</sup> In this well-known case, a man had been exposed to asbestos by various employers, as a result of which he contracted mesothelioma. However, owing to gaps in scientific knowledge, the House of Lords had no way of ascertaining which exposure had initiated the disease and so could not hold either one to be a 'but for' cause. This result seemed especially unfair considering that one of the exposures *must* have caused the cancer, it was simply not clear which. In sum, it is argued here that because the 'but for' test leads to such unjust results, it falls short of one of the key 'criteria' of a 'good' causation test: fairness.

### C. Do the Exceptions to the 'But For' Test Satisfy the Criteria?

One alternative to the 'but for' test is the 'material contribution' rule, developed in *Wardlaw*, a Scottish case appealed to the House of Lords. That case concerned a worker who contracted pneumoconiosis by inhaling silica dust. Although the defender was in breach of a duty as regards some of the dust, he owed no such duty in respect of the rest. Because the pneumoconiosis could be attributed to multiple sources, the 'negligent' dust was not a 'but for' cause. Nevertheless, the House of

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with a safety belt was not a 'but for' cause of him falling to his death because, even if he had been furnished with such a belt, he would not have worn it.

<sup>18</sup> *Kay's Tutor v Ayrshire and Arran Health Board* 1987 SC (HL) 145 (hereinafter '*Kay's Tutor*').

<sup>19</sup> The pursuer's son had suffered loss, namely deafness, and the hospital treating him had, in administering him with an overdose of penicillin, committed a breach of duty. Thus, in most normatively relevant respects, the claim in *Kay* seemed intuitively valid. It simply failed because causation could not be established, there being no evidence that a penicillin overdose could cause deafness.

<sup>20</sup> Stapleton (n 3) 442. The 'two hunters' example referred to by Stapleton is loosely based on the facts of *Cook v Lewis* [1951] SCR 830 (SCC) and *Summers v Tice* (1948) 33 Cal 2D 80 (as cited in E Adams, 'The Flexibility of Description and NESS Causation' (2010) 10 Journal Of Philosophy, Science and Law <[http://www6.miami.edu/ethics/jpsl/archives/all/NESS\\_causation.html](http://www6.miami.edu/ethics/jpsl/archives/all/NESS_causation.html)> accessed 8 June 2013. See footnote 14 of that article).

<sup>21</sup> *Fairchild* (n 10).

Lords established that there was causation on the basis that the 'negligent' dust had materially contributed to the disease.

Unfortunately, this notion of 'material contribution' is so vague,<sup>22</sup> so circular,<sup>23</sup> that a judge can effectively establish causation on the basis of intuition. The decision that factor X made a 'material contribution' is not based on some empirical quality that objectively identifies X as a cause; rather the judge has intuited that X *should* be deemed causal. Indeed, the normative connotations of a contribution that was 'material' or not '*de minimis*'<sup>24</sup> suggest that the doctrine would be better suited to legal causation. It may achieve fair results but, thanks to its vagueness, the rule fails to guarantee clarity and consistency in the law.

In addition to the *Wardlaw* rule, the House of Lords has supplemented the 'but for' test with an 'increase in risk' approach. This has its origins in *McGhee*,<sup>25</sup> another Scottish case in which a man claimed that his employer had caused him to contract dermatitis. The pursuer worked in a hot, dusty environment and, because of the absence of on-site washing facilities, cycled home unwashed. Although the defender had a duty to provide washing facilities, the court was not satisfied that he was in breach of any duty as regards the pursuer's hot, dusty working conditions. The House of Lords held that the pursuer could not, in his efforts to prove that the 'washing facilities' breach had caused his injury, rely on the 'but for' test, nor could he establish that the defender's omission had 'materially contributed' to his disease for it could not be ascertained *how* dermatitis was contracted. There was, nevertheless, medical evidence to the effect that cycling home covered in sweat materially increased the pursuer's *risk* of contracting dermatitis and, because the House of Lords equated this material increase in risk with a material contribution to the disease, causation was established. This risk-based approach was further developed in *Fairchild*.<sup>26</sup> As already mentioned, this was a case in which the court could not establish which employer's wrong caused the mesothelioma. Although the House of Lords knew that asbestos caused cancer, it did not know *how* this occurred and, because it could not rule out the 'single fibre theory', according to which the onset of mesothelioma could not be aggravated by further asbestos exposures, *Wardlaw* could not be invoked to establish cumulative causation on the part of both employers.<sup>27</sup> Because reliance on the 'but for' test would be unjust, the House of Lords decided to suspend the standard causation requirement, instead establishing causation on the basis that both employers had materially increased the risk of cancer. In reaching this conclusion, the court extended the *McGhee* principle. Whereas in that case the employer was held liable for damage he had definitely caused (via the hot working conditions and lack of showers) in *Fairchild*, the employers were held liable for damage that they *may not* have caused. In setting out this exception to the 'but for' test, the House of Lords prescribed various criteria for its application. For instance, it was said that the exception only applied if it was

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<sup>22</sup> T Honoré, 'Necessary and Sufficient Conditions in Tort Law' in DG Owen (n 14) 364.

<sup>23</sup> Wright, 'Causation in Tort Law' (n 2) 1782-1784.

<sup>24</sup> *Wardlaw* (n 1) 32.

<sup>25</sup> *McGhee* (n 10).

<sup>26</sup> *Fairchild* (n 10).

<sup>27</sup> *ibid* [7].

impossible to scientifically determine the cause of the plaintiff's injury and if the sources of harm were the same agent.<sup>28</sup>

The *Fairchild* exception, though perhaps fair in the circumstances, is a rather flawed approach to causation, mostly because it was based on policy reasoning.<sup>29</sup> For instance, Lord Bingham argued that the injustice which would result from a strict application of the 'but for' test could justify a relaxation of the requirement to prove causation. In so doing, he was effectively abandoning the 'but for' test for normative reasons, in other words, because he felt the tortfeasors *should* be liable.<sup>30</sup>

The overall object of tort law is to define cases in which the law may justly hold one party liable to compensate another. Are these such cases? A and B owed C a duty to protect C against a risk of a particular and very serious kind. They failed to perform that duty. As a result the risk eventuated and C suffered the very harm against which it was the duty of A and B to protect him. Had there been only one tortfeasor, C would have been entitled to recover, but because the duty owed to him was broken by two tortfeasors and not only one, he is held to be entitled to recover against neither, because of his inability to prove what is scientifically unprovable. If the mechanical application of generally accepted rules leads to such a result, there must be room to question the appropriateness of such an approach in such a case.

It is respectfully submitted here that when judges create exceptions to the 'but for' test on the sole basis of justice and fairness, they undermine the very purpose of causation: limiting liability. Lord Nicholls arguably missed the point of causation when he said that the 'but for' test should sometimes be relaxed when it became 'over-exclusionary'.<sup>31</sup> On the contrary, it is this author's view that a causation test *should* be exclusionary. Failure to establish factual causation should not simply be some factor to be weighed against normative considerations; rather, it must guarantee the failure of the delictual claim. That is why the *Fairchild* exception, in allowing normative considerations to infiltrate the causation enquiry, falls foul of the 'limiting liability' criterion.

Closely related to this problem is the arbitrary nature of the rule. The facts of *Fairchild* were not special enough to merit exceptional treatment. Indeed, many cases have failed on account of an evidentiary difficulty;<sup>32</sup> cases in which the 'injustice' reasoning used in *Fairchild* would have been equally valid.<sup>33</sup> Even the attempt in *Barker v Corus*<sup>34</sup> to provide a more principled justification for *Fairchild* did nothing to explain why the 'but for' test could be suspended in certain circumstances. Lord

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<sup>28</sup> *ibid* [170].

<sup>29</sup> Although *Fairchild* was mostly driven by policy considerations, Lord Rodger did try to provide a principled justification for the decision, arguing that the principle in *McGhee* was directly applicable to the facts of this case. See generally his decision at [119]-[171], in particular [169]-[170], where he explains why the present case falls within the scope of the *McGhee* principle.

<sup>30</sup> *Fairchild* (n 10) [9].

<sup>31</sup> *ibid* [40].

<sup>32</sup> For example, *Wilsher v Essex Health Authority* [1988] AC 1074.

<sup>33</sup> J Morgan, 'Causation, Politics and Law: The English-and Scottish-Asbestos Saga' in Goldberg (n 4) 61.

<sup>34</sup> *Barker v Corus* [2006] 2 AC 572 (hereinafter '*Barker*').



Hoffmann argued that, in *Fairchild*, the relevant damage was not the mesothelioma but the *risk* of contracting it.<sup>35</sup> However, he also noted that the *Fairchild* exception only applies where the disease actually eventuated,<sup>36</sup> so it seems somewhat contradictory to characterise the risk as a form of damage in itself.

The largely policy-based, often flawed, reasoning employed in cases like *Fairchild* and *Barker* has major implications for the effectiveness of the causation enquiry. If there is no solid principle underlying an exceptional rule, its scope will be uncertain. Because it is a judicial precedent, the *Fairchild* rule will always be liable to extension by analogy,<sup>37</sup> yet arguably, owing to the dubious basis for creating the exception in the first place, its development will be haphazard and chaotic. If there is to be an exception to the 'but for' test, it must be completely certain when it applies, otherwise the causation enquiry will lack clarity and consistency.

In sum, the UK (and therefore Scottish) approach to factual causation falls short of all 'three criteria'. While the 'but for' test may lead to unfair results, the alternative tests compromise the very purpose of causation: limiting liability in a clear-cut way. The problem stems from having a harsh general rule and ill-defined exceptions, when what Scots law really needs is a single test of causation; one that will secure fairer results on a more principled basis. This article now proceeds to critically analyse the suitability of NESS as a replacement for the 'but for' test.

### 3. Is NESS a Rational Account of Causation?

According to Wright's NESS test, a condition X will be a cause of outcome Y if it was a necessary element in a set of actual antecedent conditions jointly sufficient for Y's occurrence.<sup>38</sup> Although Wright subsequently modified this definition, stating that X must be necessary *for the sufficiency* of a sufficient set,<sup>39</sup> the meaning is very much the same. For instance, a court examining whether a driver's negligence caused a pedestrian's injury would first construct a set of conditions sufficient for the injury to occur. These conditions would consist of facts that actually transpired, including the pedestrian's presence on the road and the driver's failure to pay attention. The court can establish causation if, absent the driver's negligence, this set of conditions would not be sufficient for the accident. It is significant that, in choosing the facts it wants to be part of the sufficient set, a court can '[rope] off' any facts it wishes to ignore.<sup>40</sup>

Although the thrust of this part will be largely theoretical in character, focusing on whether NESS provides a rational account of causation, it will become clear in the next part that the test's ability to explain causation logically is crucial to its practical utility. Wright has claimed that his test captures the essence of

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<sup>35</sup> *ibid* [35].

<sup>36</sup> *ibid* [48].

<sup>37</sup> Morgan (n 33) 59.

<sup>38</sup> Wright, 'Causation in Tort Law' (n 2) 1774.

<sup>39</sup> R Wright, 'Once More Into the Bramble Bush: Duty, Causal Contribution, and the Extent of Legal Responsibility' (2001) 54 *Vanderbilt Law Review* 1071, 1102-1103.

<sup>40</sup> R Wright, 'Acts and Omissions as Positive and Negative Causes' in JW Neyers, E Chamberlain and SGA Pitel (eds), *Emerging Issues in Tort law* (Hart Publishing 2007) 296.

causation,<sup>41</sup> and it is this author's view that there may be some truth to this. Certainly, it seems promising that a condition need only be necessary to make a sufficient set of conditions. It is thanks to this concept of 'weak necessity' that X can be seen to cause Y, even though Y would still have occurred 'but for' X.<sup>42</sup> However, Wright has possibly exaggerated NESS' theoretical strengths and so, in assessing NESS' ability to rationalise unusual forms of causation, this part aims to put his ambitious claims to the test.

#### A. 'Over-determination'

It is not a matter of controversy that NESS can detect causation in cases of over-determination, that is, cases in which multiple sufficient sets exist for the same outcome. Consider, for example, the scenario of two vehicles (V1 and V2) striking someone simultaneously.<sup>43</sup> Neither vehicle was necessary for the person's death, but if V1 is viewed as part of a set of conditions sufficient for the death, which does not include V2, V1 can be seen as a necessary element of that set. The same reasoning can be employed to hold that V2 was a necessary element of a set of conditions that does not include V1.<sup>44</sup> Therefore, the NESS test allows a court to identify both vehicles as causes. Similarly, if two separate fires burn down a house, both can be seen as necessary elements of their own sufficient sets.<sup>45</sup>

A less straightforward example of over-determination is that of 26 separate discharges of chemicals into a river, which combine to kill cattle.<sup>46</sup> For the sake of example, it will be assumed that each discharge contains 1 unit of pollution and that a total of 18 units was needed to kill the cattle. This means that none of the discharges were independently necessary or sufficient for the damage caused. Nevertheless, all of these discharges played a causal role. Each one was, on a strict application of the test, a NESS.<sup>47</sup>

In order to establish that a particular discharge was a NESS, a court would simply combine that discharge (1 unit) with 17 further discharges (1 unit each), thereby constructing a set that is *just sufficient* to kill the cattle.<sup>48</sup> In this particular sufficient set, the discharge of interest is a necessary element. Such an analysis has been criticised as artificial on the basis that it involves disaggregating the other 8 discharges from the set.<sup>49</sup> However, it is argued that this is as valid an application of the NESS test as the 'two vehicles' example above, a case that also involves constructing a sufficient set that artificially excludes the presence of the other condition. The 'pollution' example simply entails the same logic on a larger scale, there being far more sufficient sets to consider. As Miller explains, simply because

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<sup>41</sup> Wright, 'Causation in Tort Law' (n 2) 1805.

<sup>42</sup> H Spector, 'The MMTS Analysis of Causation' in Goldberg (n 4) 339-340.

<sup>43</sup> This scenario is borrowed from Hogg. See Hogg, 'Developing Causal Doctrine' (n 8) 47-48.

<sup>44</sup> *ibid* 48.

<sup>45</sup> Miller, 'NESS for Beginners' (n 8) 324.

<sup>46</sup> This example is based on the case of *Warren v Pankhurst* 92 NYS 725 (NY Sup Ct 1904), *aff'd*, 93 NYS 1009 (AD 1905), *aff'd* 78 NE 579 (NY 1906) (as cited in *ibid* 327).

<sup>47</sup> *ibid* (Miller) 327.

<sup>48</sup> Wright, 'Causation in Tort Law' (n 2) 1793.

<sup>49</sup> Fischer (n 5) 290-292.

there are hundreds of sufficient sets, and the discharge in question is only a necessary element in some of them, does not preclude it from being a NESS.<sup>50</sup>

If the pollution example is altered so that, instead of having 26 insufficient contributions, there is now one large discharge (20 units) and 16 smaller discharges (1 unit each),<sup>51</sup> a new difficulty for the NESS test arises, known as ‘asymmetric’ over-determination.<sup>52</sup> Since the number of units required to kill the cattle is 18, the large discharge (20 units) is independently sufficient. Establishing that one of the 16 smaller, insufficient contributions is a NESS means constructing a sufficient set that includes that contribution (1 unit) and supplementing it with *no more than* 17 additional units, some of which can only come from the larger discharge (20 units).<sup>53</sup> Because the larger discharge contains 20 units, it can only be used to complete a minimally sufficient set if the excess units can be disaggregated, yet to do so seems excessively artificial as it involves notionally dividing up a single entity (the large discharge) into, say, 17 units and 3 units respectively. Nevertheless, strained as this logic may appear, it is correct. NESS simply requires that a sufficient set consist of actual conditions and that is why the test *can* lead to a finding of causation in asymmetric over-determination cases.<sup>54</sup> Here, the large source *actually* contained 17 units of pollution (along with another 3) and so these 17 units can be combined with the smaller (1 unit) contribution to make the latter a NESS.

## B. ‘Pre-emption’

Wright has claimed that, in certain cases involving potential causes X and Y, NESS supports the conclusion that X pre-empted Y, rendering it causally irrelevant.<sup>55</sup> One problematic example provided by Wright involves a ship whose access to a port has been blocked by two collapsed bridges. There are no alternative access routes. According to Wright, the first bridge to block the ship (B1) was a NESS of the ship’s delay but the bridge further upstream (B2) was not.<sup>56</sup> It would only have constituted a NESS if the ship had reached it. However, Fumerton and Kress think that the test,

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<sup>50</sup> Miller, ‘NESS for Beginners’ (n 8) 327.

<sup>51</sup> This is based on a similar modification of the pollution example made by Wright. See Wright, ‘Causation’ (n 2) 1793-1794.

<sup>52</sup> MS Moore, *Causation and Responsibility: An Essay in Law, Morals and Metaphysics* (Oxford University Press 2009) 489.

<sup>53</sup> Wright, ‘Causation in Tort Law’ (n 2) 1793-1794.

<sup>54</sup> *ibid.*

<sup>55</sup> *ibid* 1795. Here, Wright gives an example of ‘pre-emption’ in which P drinks tea which has been poisoned by C but, before the poison takes effect, P is shot dead by D. According to Wright, D’s gunshot pre-empts C’s poisoning of the tea, which is to say that D’s gunshot was a NESS of P’s death and C’s poisoning of the tea was not. This is because, says Wright, in order to create a sufficient set of actual conditions which included, as a necessary element, C’s poisoning, P must have been alive when the poison took effect. The essence of Wright’s concept of ‘pre-emption’ is that, even if there is an *actual* condition (in this case P’s consumption of the poisoned tea) which, together with other actual conditions (e.g. the absence of an antidote), is sufficient to *guarantee* the occurrence of a particular outcome (namely P’s death), that condition is nevertheless not a cause because of some other condition (in this case D’s gunshot). While ‘over-determination’ means that *both* conditions X and Y are causes, ‘pre-emption’ means that X prevents Y from having any causal effect.

<sup>56</sup> *ibid* 1796-1797.

properly applied, renders both bridges NESSs.<sup>57</sup> In order to appreciate their criticism, it is necessary to examine the *type* of sufficiency to which NESS relates.

If event X is *lawfully* sufficient for event Y it means that, if X is present, Y's presence will be guaranteed by some law of nature.<sup>58</sup> For instance, fire is lawfully sufficient for oxygen because the presence of fire guarantees the presence of oxygen. Fumerton and Kress are of the view that NESS embodies this notion of lawful sufficiency; that a 'NESS' cause is a necessary element of a *lawfully* sufficient set.<sup>59</sup> The problem with this is that lawful sufficiency does not necessarily denote a causal relationship. For instance, a barometer falling guarantees the presence of a storm but it does not follow from this that the barometer *causes* the storm.<sup>60</sup> Nevertheless, lawful sufficiency is all NESS requires and, because the collapse of B2 guarantees that the ship will not reach the harbour, B2 is part of a lawfully sufficient set.<sup>61</sup> Contrary to what Wright argues, the sufficiency of this set does not depend on the ship arriving at B2.

The only means of holding that B2 was not a NESS is by invoking a concept of causal sufficiency.<sup>62</sup> Causal sufficiency is a special type of lawful sufficiency, according to which the presence of X will be sufficient to *cause* Y. Thus, in the same way that a barometer falling is not causally sufficient for a storm, Wright might be able to argue that B2, though lawfully sufficient for the ship's delay, would only be causally sufficient if the ship reached B2, which did not occur. However, acceptance of this approach would render NESS viciously circular. In defining causation, Wright would be relying on a concept of sufficiency itself predicated on a certain understanding of causation, which, to paraphrase Fumerton and Kress, would effectively amount to defining causation as 'causation.'<sup>63</sup> Wright's subsequent attempts to justify 'causal sufficiency' have been unconvincing.<sup>64</sup> For example, he has said that, although B2 guarantees that the ship will not arrive at the harbour, it does not guarantee that the ship's delay will be 'caused by' B2.<sup>65</sup> The use of the phrase 'caused by' only serves to further illustrate the circularity of his theory. Wright is effectively saying that B2 was not a *cause* of the ship's delay because it did not guarantee that the ship's delay would be *caused* by B2. In a recent article, Wright insisted that causal sufficiency is not circular by clarifying that it can be established by means of empirical tests:<sup>66</sup>

Our knowledge of the required conditions in the antecedent of a causal law-and thus of the direction of causation-is based on experience and empirical observation, by ourselves or others. Scientists employ Mill's Difference Method in carefully designed experiments to see if the non-instantiation of a supposed antecedent condition makes a difference in the occurrence of the

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<sup>57</sup> Fumerton and Kress (n 6) 100-101.

<sup>58</sup> *ibid* 92-93.

<sup>59</sup> *ibid* 94.

<sup>60</sup> *ibid* 93.

<sup>61</sup> *ibid* 100-101.

<sup>62</sup> *ibid* 101-102.

<sup>63</sup> *ibid* 102.

<sup>64</sup> Stapleton (n 3) 477.

<sup>65</sup> Wright, 'Acts and Omissions' (n 40) 305.

<sup>66</sup> Wright, 'The NESS Account of Natural Causation' (n 7) 289.

consequence. For example, we determine by observation or experimentation that eliminating a flagpole or changing its height eliminates or changes the length of the flagpole's shadow, but not vice versa.

However, as Steel has pointed out, this would not render NESS any less circular.<sup>67</sup> In applying a scientific test to determine what is causally sufficient, one would inevitably have certain preconceptions of what is causally sufficient.

Fumerton and Kress' reasoning applies to all 'pre-emption' cases, including those concerning omissions. A key example involves the renter of a car neglecting to repair the brakes and an accident occurring when the driver, not knowing they are faulty, fails to apply them anyway.<sup>68</sup> Wright has argued that the driver's omission to apply the brakes pre-empts that of the renter to repair them.<sup>69</sup> However, contrary to Wright's conclusion, both omissions are NESSs. The failure to repair was part of a lawfully sufficient set because it guaranteed that the car would crash. Wright's argument, namely that the failure to provide a safeguard could only be an *actual* condition if an attempt was made to use it, is unconvincing, for the failure to repair the brakes *actually* occurred. Moreover, Wright's reasoning fails to demonstrate why it was the driver's omission that pre-empted that of the renter and not vice versa. As Fischer points out, the same logic can be used to conclude that the driver's omission would only have a causal effect if the brakes were working.<sup>70</sup> In short, Wright provides no compelling reasons that explain why both omissions, that of the driver *and* that of the renter, are not NESSs. His assertion that the two factors are distinguishable because the driver's omission had causal priority,<sup>71</sup> is based on the same circular notion of causal law that he invokes in the 'two bridges' example.<sup>72</sup>

In sum, Fumerton and Kress have exposed a significant flaw in the NESS test. Until Wright can provide a non-circular explanation for why the driver's omission pre-empts that of the renter and why B2 is any less a NESS than B1, these scenarios, and indeed all purported cases of pre-emption, will be indistinguishable from cases of over-determination.<sup>73</sup>

### C. 'Indeterminate Causation'

A particularly difficult issue is NESS' applicability to cases involving scientific indeterminacy.<sup>74</sup> The problem is that, where there are multiple exposures to a dangerous chemical such as asbestos and it is not known *how* exactly this causes mesothelioma, it is impossible to construct a sufficient set of actual conditions that will include, as a necessary element, only *one* employer's wrongdoing. For instance, if an individual has been exposed to asbestos by three consecutive employers (E1, E2

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<sup>67</sup> S Steel, 'Publication Review: Perspectives on Causation' (2012) 16(3) ELR 458, 460.

<sup>68</sup> This example is based on *Saunders System Birmingham Co. v Adams* 217 Ala 621 So 72 (1928) (as cited in Wright, 'Causation in Tort Law' (n 2) 1801).

<sup>69</sup> *ibid* (Wright) 1801.

<sup>70</sup> D Fischer, 'Causation in Fact in Omission Cases,' (1992) Utah Law Review 1335, 1358-1360.

<sup>71</sup> Wright, 'Once More' (n 39) 1130-1131.

<sup>72</sup> Fischer, 'Insufficient Causes' (n 5) 312.

<sup>73</sup> For example, the 'two fires' scenario: see text accompanying footnote 45.

<sup>74</sup> For an example of scientific indeterminacy, see text accompanying footnote 21.

and E3), there are various possible combinations of exposures that could have precipitated the disease. It is possible that E1's exposure caused the disease and those of E2 and E3 played no role in aggravating it or, alternatively, that all three exposures played a role. However, there is no way of verifying which possibility transpired. It is, therefore, impossible to construct a set that includes, say, E1's exposure but not those of E2 and E3. There is no way of guaranteeing that that set was sufficient. It is for that reason that NESS cannot lead to a finding of causation in cases of scientific uncertainty.<sup>75</sup>

In conclusion, it cannot be denied that NESS, in its recognition that there can be multiple combinations of conditions sufficient for one outcome,<sup>76</sup> can detect a far wider category of causation than the 'but for' test. However, NESS suffers from several theoretical drawbacks. Particularly devastating is Wright's insistence on a concept of causal, rather than lawful, sufficiency, which has led to accusations that the test is viciously circular.<sup>77</sup> This, coupled with NESS' related inability to explain pre-emption and indeterminacy cases, suggests that it is far from being the philosophically comprehensive account of causation that Wright claims it to be. However, even if the test is imperfect, it may still be useful on a more practical level.

#### *4. Would NESS be of Practical Use to the Scottish Courts?*

The theoretical flaws identified in part III of this article might be fatal to Wright's claim that NESS captures the essence of causation,<sup>78</sup> but they are by no means fatal to the test's utility. As Stapleton explains, the law does not need a philosophically sound account of causation but can rather 'choose' a certain meaning to suit its needs:<sup>79</sup>

(...) causal language can be used to express information from a variety of interrogations into our world pursued for different purposes: and it is only once we have chosen which is the underlying interrogation in our dialogue that we can infuse our causal language with unambiguous meaning. Thus, for example, it is only because scientific method requires scientists to expose their choice of interrogation by explicitly recording the parameters of their enquiry, that scientific discourse can proceed unambiguously (...) [W]hilesoever philosophers ignore the necessity for them to agree on an interrogation ((...) be it prevention or blame or explanation etc) to underlie their use of causal language, their discussions of "the concept of causation" will be doomed to proceed at cross-purposes.

Because the term 'cause' can be used to convey different types of information, ranging from mere physical involvement to the attribution of blame, the law can, and

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<sup>75</sup> Hogg, 'Developing Causal Doctrine' (n 8) 48.

<sup>76</sup> C Miller, 'Causation in personal injury after (and before) *Sienkiewicz*,' (2012) 23(3) *Legal Studies* 396, 399.

<sup>77</sup> Stapleton (n 3) 472.

<sup>78</sup> Wright, 'Causation in Tort Law' (n 2) 1789.

<sup>79</sup> Stapleton (n 3) 439 (footnote 15 of that article).

should, specify a particular interrogation to underlie the causal enquiry. The upshot of this is that NESS can still be useful to the law, even if it does not 'engage philosophers'<sup>80</sup> or comply with some 'divine' standard.<sup>81</sup> That is not to guarantee, however, that NESS *would* be of use to the courts but simply that the law can 'choose' what it means by causation.<sup>82</sup> The following sections will investigate, with close reference to the 'three criteria' identified in part II, whether NESS would make a good 'choice' for Scotland.

## A. Practical Benefits

The primary advantage of adopting NESS would be fairness in the law as, unlike the 'but for' test, NESS can rationalise cases of over-determination. Stapleton has argued that, in order for the causal enquiry to meet the law's needs, factor X should be deemed a cause of outcome Y if it was 'involved' therein<sup>83</sup> and further, that NESS, all theoretical imperfections notwithstanding, would be an ideal algorithm for assessing 'involvement'.<sup>84</sup> Stapleton's concept of 'involvement' takes three forms, namely necessity,<sup>85</sup> duplicate necessity<sup>86</sup> and contribution,<sup>87</sup> yet the 'but for' test can only detect the first type. Like the 'but for' test, NESS can recognise involvement by necessity but, as part III of this article has demonstrated, it also identifies causation in cases of duplicate necessity<sup>88</sup> and contribution.<sup>89</sup> It is because the 'but for' test does not recognise 'involvement' in all its forms that it begets such harsh decisions. NESS, with its ability to identify a broad range of causal 'involvement', would secure far fairer results for pursuers.

For instance, NESS may have allowed a finding of causation in the somewhat harsh decision of *Wilsher v Essex HA*.<sup>90</sup> Although judges often compare this case to *Fairchild*, the fact that an excess of oxygen was only one of several factors that could

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<sup>80</sup> Miller, 'NESS for Beginners' (n 8) 337.

<sup>81</sup> M Hogg, 'The Role of Causation in Delict' (2005) *Juridical Review* 89, 113.

<sup>82</sup> Stapleton (n 3) 438-441.

<sup>83</sup> *ibid* 443-446.

<sup>84</sup> *ibid* 474.

<sup>85</sup> *ibid* 441. For the avoidance of confusion, Stapleton's concept of 'necessity' simply describes a typical 'but for' relationship e.g. X's gunshot was necessary for Y's injury because, if X had not shot Y, Y would not have been injured.

<sup>86</sup> *ibid* 441-443. Stapleton's concept of 'duplicate necessity' is a particular form of over-determination. The aforementioned 'two hunters' scenario (see text accompanying footnote 20), 'two vehicles' scenario (see text accompanying footnotes 43 & 44) and 'two fires' scenario (see text accompanying footnote 45) are all examples of duplicate necessity because if, say, in the 'two vehicles' scenario, V1 is notionally removed, V2 now becomes necessary for the pedestrian's injury and vice versa.

<sup>87</sup> *ibid* 443-444. Stapleton's concept of 'contribution' is simply an example of over-determination. Both of the aforementioned pollution examples (see text accompanying footnotes 46 and 51) are instances of 'contribution'. 'Contribution' is a wider form of over-determination than 'duplicate necessity'. In the 'two vehicles' example, V1 is independently sufficient (along with all other relevant factors e.g. the pedestrian's presence on the road) for the pedestrian's injury. However, in the pollution examples, a particular discharge of 1 unit will need to be notionally combined with some of the other discharges to make a sufficient set.

<sup>88</sup> For example, the 'two fires' scenario. See text accompanying footnote 45.

<sup>89</sup> For example, the 'pollution' scenarios. See text accompanying footnotes 46 and 51.

<sup>90</sup> *Wilsher* (n 32).

have caused retrolental fibroplasia (RF), suggests that this was a potential case of over-determination. Had NESS applied, the court may have been able to construct a sufficient set for RF including, as a necessary element, the excess of oxygen, and excluding all competing factors. Lord Bridge was somewhat equivocal as to whether an excess of oxygen was sufficient for RF<sup>91</sup> but if, on closer examination of the scientific evidence, he had found that an excess of oxygen *was* part of a set of conditions sufficient for RF, causation would have been established and a fairer result would have been obtained.

What makes NESS particularly attractive, however, is its ability to achieve justice on a logical basis, without recourse to normative considerations, legal fictions or policy.<sup>92</sup> Because judges would be required to confine their analysis of causation to empirical concepts, namely necessity and sufficiency, determinations of whether or not particular conditions were NESSs would be relatively unambiguous. As a result, the law would be consistent. There would be no need to depart from the NESS test or introduce ill-defined exceptions to supplement and attenuate the general rule, for the general rule would be perfectly satisfactory. Thus, whether examining the simplest 'but for' cases or the most complex cases of over-determination, the courts could rely on a single test of factual causation.

Indeed, if NESS had been the standard test at the time of *Wardlaw*,<sup>93</sup> the presence of multiple concurrent sources would not have been an issue.<sup>94</sup> The court would simply have combined the 'negligent' dust with *just enough* of the 'non-negligent' dust to construct a sufficient set. The 'negligent' dust would have been deemed a NESS of the pursuer's injury and so there would have been no need to devise an exception based on 'material contribution'. Indeed, it would be preferable to analyse cases like *Wardlaw* in terms of NESS. In contrast to the vague concept of 'material contribution', the meaning of which is apt to vary according to judicial intuition, it would not be so easy for judges to differ on what constitutes necessity and sufficiency. Whereas 'material contribution' is a question of degree, the concepts of necessity and sufficiency are more objective and absolute. In short, because NESS can establish fair results on a more rational basis in over-determination cases,<sup>95</sup> it is suggested here that it satisfies the criterion of 'clarity and consistency'.

It almost goes without saying that NESS would be useful in over-determination cases. More problematic is its applicability to cases of indeterminate causation. It was established in part III that NESS does not provide a solution in such cases. Nevertheless, the test could recognise causation in such cases if used in a certain way. Stapleton has argued that NESS should be calibrated to give the most desirable results: 'I argue that NESS is merely an algorithm; an algorithm the catchment of which we design so that it will identify all forms of involvement of interest to the Law.'<sup>96</sup> Thus, although there is no rule inherent in the concept of a 'NESS' that would allow causation to be identified in cases like *Fairchild*,<sup>97</sup> it may

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<sup>91</sup> *ibid* 1091.

<sup>92</sup> Miller, 'NESS for Beginners' (n 8) 323.

<sup>93</sup> *Wardlaw* (n 1).

<sup>94</sup> Miller, 'NESS for Beginners' (n 8) 327.

<sup>95</sup> Adams (n 20). See text accompanying footnote 19 of that article.

<sup>96</sup> Stapleton (n 3) 477.

<sup>97</sup> *Fairchild* (n 10).



nevertheless be possible to build such a rule into the test. This may be objected to on the grounds that it would allow normative considerations to influence *how* NESS is used. However, so long as the concepts *within* the test are empirical (i.e. necessity and sufficiency), it will still be possible to apply NESS in a clear-cut, objective manner.

It is submitted that, if NESS is adopted, the following rule could be built into the test: in establishing that the defender's wrongdoing was a NESS, the pursuer would first have to construct a set of conditions that was *definitely* sufficient, even if it was not minimally sufficient. Then, the court would notionally remove the defender's wrongdoing from the set and, if it was *no longer definitely* sufficient, the wrongdoing would be deemed a necessary element thereof. This would mean that, in the example above,<sup>98</sup> the employee could establish that each employer's exposure was a NESS of his or her injury. He or she would begin by constructing a sufficient set containing all three exposures. Assuming that the individual was only exposed to asbestos in the workplace, they could construct the following sufficient set: all three consecutive exposures taken together (i.e. those of E1, E2 and E3), along with any other relevant conditions such as a lack of safety precautions. This set is *definitely* sufficient. Now, in order to demonstrate that, say, E1's exposure was a necessary element of this set, the employee would simply have to show that, without this exposure, the set was *no longer definitely* sufficient. It is uncertain whether E1's exposure actually played any role in the contraction of mesothelioma but, equally, it cannot be ruled out that it *did*. In this way, removing E1 from the set does not necessarily make it insufficient; it simply casts the set's sufficiency into doubt. Yet, because of the special rule, this would suffice to establish that the exposure was a NESS. In short, a sufficient set containing conditions E1, E2 and E3, is the closest approximation of a definitely sufficient set that science will currently permit and so, pending some scientific discovery to the contrary, all three conditions will be deemed NESSs.

Various objections may be levelled against this rule. One might argue, for example, that the above is no different from using the 'but for' test and reversing the burden of proof, requiring the defender to show that his or her particular exposure was *not* necessary. However, this is not technically true. The pursuer would still have the burden of proof of causation, they would simply have to prove slightly less, namely that the removal of the condition casts the set's sufficiency into doubt. Moreover, with the 'but for' test, a 'reversal of the burden of proof' rule would exist as an exceptional one, only applying in cases of scientific indeterminacy. With the NESS test, on the other hand, the 'no longer definitely sufficient' rule, would simply be part of the test: it would apply in all cases but would only make a difference in cases of scientific indeterminacy.

Consider, for example, the 'two vehicles' scenario.<sup>99</sup> Here, the court would first construct a set including V1, V2 and the pedestrian's presence on the road. This is *definitely* sufficient for the accident. Without V1, the set is still *definitely* sufficient. However, the removal of V2 as well means that the set is *no longer definitely sufficient* and so V2 is a NESS. Of course, the court would also know that this set was *definitely*

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<sup>98</sup> See text accompanying footnotes 74 & 75.

<sup>99</sup> See text accompanying footnotes 43 & 44.

insufficient without V1 and V2, but there would be no need for the pursuer to prove this. The salient point is that this result (both V1 and V2 are NESSs) is exactly the same result that would be obtained if the pursuer had to prove that the set was *definitely insufficient* without the two vehicles. The 'no longer definitely sufficient' rule therefore has no impact. The fact that this rule would apply to all cases, and not as an exception in cases involving scientific indeterminacy, would minimise confusion. This, combined with the fact that the rule is articulated in terms of an empirical concept, namely sufficiency, would ensure clarity in the law. Whether a particular set was 'not definitely sufficient' would always be a clear-cut matter.

If NESS is employed in the above way, the test would be able to provide fair results in cases involving scientific indeterminacy but on a more rational basis. For a start, there would be a more principled basis for joint and several liability.<sup>100</sup> In *Barker*,<sup>101</sup> the House of Lords tried to justify mere several liability by characterising the *damnum* as the risk of contracting mesothelioma and, although the Compensation Act 2006<sup>102</sup> has reversed the harm done by *Barker*, at least with regards to asbestos cases, this problem would never have arisen under the NESS test. NESS, used in the way proposed above, would have irrefutably established that the employers *caused* the *disease*, leaving it in no doubt that they were jointly and severally liable.

In sum, NESS' practical utility resides in its ability to establish fairer results on a more principled basis. It is a useful explanatory device capable of establishing causation in over-determination cases and, although not inherently capable of rationalising indeterminate causation, could do so in practice if supplemented by a special rule. There is no doubt that NESS satisfies the two criteria of fairness and 'clarity and consistency' but there is a flipside to this, namely the risk that, in adopting NESS, the Scots courts would make causation too easy to establish. The next section will focus, *inter alia*, on this potential problem and whether it outweighs the potential benefits of adopting NESS.

## B. Potential Dangers

Some objections to the NESS test are so trivial that they can be dismissed almost immediately. For instance, Fumerton and Kress have argued that NESS, if it relies on a concept of lawful sufficiency, presupposes a deterministic universe and so could not address cases involving probabilistic sources of harm.<sup>103</sup> They provide the example of an 'indeterministic' bomb, which, depending on a random process, may explode in a minute or 2000 years.<sup>104</sup> The point is that, if the bomb detonates, injuring someone, it could not be established that the bomb was lawfully sufficient as it was not *guaranteed* to explode at that particular time. However, in practice, a judge would hold that the bomb was lawfully sufficient for the person's death because the bomb *did* go off, thus guaranteeing the person's injury on *this particular occasion*. Thus,

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<sup>100</sup> Miller, 'NESS for Beginners' (n 8) 337.

<sup>101</sup> *Barker* (n 34).

<sup>102</sup> s 3.

<sup>103</sup> Fumerton and Kress (n 6) 97-98.

<sup>104</sup> *ibid.*

though NESS' presupposition of determinism may be a legitimate theoretical grievance, it presents no practical problems.

Similarly pedantic is Fumerton and Kress' argument that any fact can be considered a NESS.<sup>105</sup> They give the example of X starting a fire and argue that the fact that he was wearing a blue shirt, or any other irrelevant condition, can be rendered a NESS thereof. Although their logic, which consists of manipulating such truth functional operators as 'NOT' and 'OR', is perfectly sound, it is predicated on the existence of the following state of affairs: X was not wearing a blue shirt OR N (a state of affairs lawfully sufficient for the fire). By making the proposition 'X was not wearing blue shirt' and 'N' alternatives to one another, Fumerton and Kress are able to conclude that X's blue shirt was a NESS. However, this state of affairs of the structure 'Either...Or...' simply does not arise in practice: judges invariably define a set of facts according to what 'is' the case. As such, it is suggested here that Fumerton and Kress' criticism is purely academic.

On the other hand, the fact that NESS would make causation easier to establish does raise serious practical issues. For a start, in order for NESS to provide a non-circular account of causation, it would have to recognise as a cause any necessary element of a set that is *lawfully* sufficient. In other words, the set will be deemed sufficient if it *guarantees* the outcome's occurrence. This approach could be used to justify all manner of absurd results, for example, the determination that a barometer falling causes a storm.<sup>106</sup> Such results would make a farce of the causation requirement. Consequently, if NESS is to satisfy the 'limiting liability' criterion, it must recognise that the existence of lawful sufficiency between two events does not always denote a causal relationship. Of course, to draw such a conclusion would be to invoke a concept of causal sufficiency but the circularity that this would entail, although theoretically unsatisfying, would not necessarily be a problem in practice.

Then again, even if there is a way of ruling out the barometer as non-causal, the following question arises: can B2 (from the 'two bridges' example)<sup>107</sup> be deemed non-causal by the same token? These issues are problematic. On the one hand, a causation test must be able to limit liability in a significant way; on the other, a causation test must be clear-cut and there is a risk that, by relying on an undefined concept of causal sufficiency to hold that a barometer did not cause a storm and that a certain bridge did not cause a ship's delay, judges could never achieve consensus as to what constitutes a NESS. As mentioned earlier,<sup>108</sup> Wright's notion of causal sufficiency can be used to reach two completely different conclusions in the 'faulty brakes' problem, which raises the question: if causal sufficiency is such an ambiguous concept, could judges ever invoke it on a consistent basis?

Before examining the issue of causal sufficiency, however, it is worth observing one way in which NESS can hold that factors are causally irrelevant without invoking a concept of causal sufficiency, that is, by articulating the causal question more specifically.<sup>109</sup> Where the causal question is, 'what caused the ship's

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<sup>105</sup> *ibid* 94-95.

<sup>106</sup> See text accompanying footnote 60.

<sup>107</sup> See text accompanying footnote 56.

<sup>108</sup> Fischer, 'Causation in Fact' (n 70) 1358-1359.

<sup>109</sup> Adams (n 20). See text accompanying footnote 27 of that article.

delay?’ both B1 and B2 are NESSs for, as discussed above, both are part of lawfully sufficient sets for that outcome. However, if the question is phrased as ‘what caused the ship to stop *behind* B1?’ then B2 becomes causally irrelevant as the fact that it had collapsed did not guarantee that the ship would stop *at that particular point*. Indeed, this technique of articulating the outcome in greater detail is not peculiar to the NESS test. As Adams makes clear, the same result can be achieved under the ‘but for’ test.<sup>110</sup> But for the collapse of B1, the ship would not have stopped *just behind* B1, however this result would have occurred regardless of the collapse of B2.

Nevertheless, it is argued here that this sort of pre-emption is of limited utility. It hinges on the rather contrived device of specifying the outcome in minute detail, in effect altering the causal question to obtain the desired answer. This can only be done to a limited extent in legal practice. As Wright mentions:<sup>111</sup>

The courts (...) do not qualify the consequence by specifying its non-salient details or the time, location or manner of its occurrence when describing or applying the *sine qua non* analysis.

Wright’s point, although perhaps made with the American courts in mind, is certainly true of the Scots courts, which are far more likely to articulate the causal question as: ‘would the pursuer *have been delayed* had B1 not collapsed?’ than ‘would the pursuer have *had to stop x metres from* B1 had B1 not collapsed?’ More significantly, phrasing the causal question more narrowly does not provide a solution to the ‘barometer’ problem.

A more practical solution would be to have a rebuttable presumption that, if X was a necessary part of a *lawfully* sufficient set for Y, X caused Y. However, if the court can be satisfied, on the balance of probabilities, that the relationship between X and Y could not possibly have been causal then the court would be allowed to impose a requirement of causal sufficiency and hold that X was *not* a cause of Y on that basis. Thus, although there would be a presumption, under the NESS test, that the fall of a barometer caused a storm, this presumption could be rebutted because it is well known that the fall of a barometer cannot cause storms and that both of these events are the *effects* of a drop in air pressure. The existence of a presumption would ensure certainty in the law. This presumption could only be overturned in extreme cases such as that of the barometer, the sort of case in which there is clear-cut, unequivocal evidence that a particular relationship is not causal. In the bridges example, it would not be possible to rebut the presumption that lawful sufficiency was enough for the purposes of causation as there is not really any overwhelming evidence to suggest that the relationship between B2 and the ship’s delay was not causal.

To the purist and the philosopher, any recourse to a notion of causal sufficiency is circular, illogical and out of the question. From the standpoint of a judge, however, such an analysis would be acceptable. This is because all judges, even when deciding cases in terms of the ‘but for’ test, presuppose a certain notion of

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<sup>110</sup> *ibid.* See text accompanying footnote 24 of that article.

<sup>111</sup> Wright, ‘The NESS Account of Natural Causation’ (n 7) 294.

causal sufficiency. For example, the court in *Barnett v Chelsea*,<sup>112</sup> in assessing whether a doctor's negligence was a cause of an individual's death, were effectively asking the following question: 'in a hypothetical world in which the doctor had *not* refused to treat the individual, would all the remaining actual conditions, most notably the arsenic poisoning, have been *sufficient* to *cause* his death?' This notion of causal sufficiency, tacitly invoked, was not one on which the judges were likely to differ, it being a well-established scientific fact that the relationship between arsenic poisoning and death is not simply lawful but causal. Conversely, judges would likely all agree that the symptoms of a disease, although lawfully sufficient for the disease in that they guarantee its presence, were not sufficient to cause the disease. They would know, based on scientific evidence, that it was the disease that caused the symptoms, not vice versa.

In short, if NESS is used in a particular way it could adequately rule out certain conditions as causally irrelevant in extreme cases, allowing it to satisfy the 'limiting liability' criterion. However, this must not come at the expense of clarity in the law. As Thomson has observed, if words like 'sufficiency' are not clearly defined, this can lead to confusion.<sup>113</sup> With this point in mind, it must be clear to judges in what exact circumstances NESS requires mere lawful sufficiency and when NESS requires causal sufficiency. There is thus a need for a presumption that lawful sufficiency is enough; a presumption that can only be overturned if the lack of causal sufficiency is so overwhelmingly evident that no judge is bound to disagree about it. This goes to show that even if NESS cannot, in strict theoretical terms, employ a concept of causal sufficiency to brand certain conditions causally irrelevant, it can do so, to a limited extent, in practice.

Aside from the above problem of lawful sufficiency, some commentators feel that the NESS test cheapens the notion of causation in a more fundamental way.<sup>114</sup> It has been argued, for example, that the focus on sufficiency rather than necessity makes it too easy to establish causation in cases involving multiple wrongdoers. Chris Miller has commented that the NESS test's utility lies in its recognition that there can be various causal pathways 'capable' of triggering a certain outcome, but this may also be its fundamental flaw.<sup>115</sup> The word 'capable' is significant. It suggests that NESS is concerned not so much with what did happen as with what *could* have happened. Just as the 'but for' test, with its emphasis on necessity, is overly restrictive, undue emphasis on sufficiency could lead to over-inclusiveness.<sup>116</sup>

This problem is particularly acute in cases of 'contribution'.<sup>117</sup> In a way, these cases represent the controversial outer limits of NESS causation, where a factor can play a seemingly minor role in a particular outcome but still be deemed a cause. If anything is going to render the causal requirement meaningless or impotent, it is these cases. Fischer gives the extreme example of X adding a teaspoon of water to a

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<sup>112</sup> *Barnett v Chelsea and Kensington Hospital Management Committee* [1969] 1 QB 428.

<sup>113</sup> JJ Thomson, 'Some Reflections on Hart and Honoré, *Causation in the Law*' in MH Kramer, C Grant, B Colburn and A Hatzistavrou (eds) *The Legacy of HLA Hart: Legal, Political and Moral Philosophy* (Oxford University Press 2008) 143.

<sup>114</sup> Fischer, 'Insufficient Causes' (n 5) 290-291.

<sup>115</sup> Miller, 'NESS for Beginners' (n 8) 327.

<sup>116</sup> E Quill, 'Successive Causes and the Measurement of Damages' (2002) 37 Irish Jurist 91, 97.

<sup>117</sup> For a definition of Stapleton's concept of 'contribution' see footnote 87.

tsunami.<sup>118</sup> The NESS test makes this tiny contribution of water causally relevant by notionally combining it with just enough tsunami water to make a sufficient set for a particular piece of damage. Applying this analysis to each piece of damage, the teaspoon of water can be deemed a NESS for all the destruction wrought by the tsunami. Because of this absurd result, Fischer feels that the NESS test should not make a finding of causation in such cases.

To an extent, Fischer is correct. It would be nonsensical to hold X liable for any of the tsunami damage. However, even if X were held a cause, the various normative filters, most notably breach of duty and legal causation, would ensure that X was not held liable for such a trivial contribution. Moreover, there would be very good reasons for allowing the teaspoon of water to be held a cause. To modify Fischer's example,<sup>119</sup> imagine that thousands of individuals each simultaneously dispense a teaspoon of water into a river, flooding someone's home. In the interests of fairness, the law requires a concept of causation flexible enough to recognise each person's contribution to the flood as a cause, otherwise everyone would be able to hide behind the others' wrongdoing. At the same time, if NESS is embraced, it must be embraced wholeheartedly, which is to say that the empirical concept of a NESS must never yield to normative considerations. There is a need to maintain clarity and consistency in the law and, to that end, if NESS detects causation in less extreme cases of contribution it should also detect causation in anomalous cases such as the tsunami example. Fischer insists that it should be possible to hold that a certain factor, though a NESS, was nevertheless not a cause because it was too trivial.<sup>120</sup> However, such an approach would adulterate the empirical purity of the NESS test and result in a lack of clarity in the law. It is suggested that the price of consistency and fairness may be the occasional absurd finding that a teaspoon has caused a tsunami but, so long as this sort of case can be handled by normative filters like legal causation, no practical harm should result.

On a more general level, it is worth pointing out that NESS does not render causation completely meaningless. The concepts of necessity and sufficiency may sometimes lead to absurd results, but they have the advantage of being empirical concepts that leave no room for normative issues or judicial discretion. In addition, there are plenty of circumstances in which NESS would *not* lead to a finding of causation. In *Kay's Tutor*,<sup>121</sup> for example, no sufficient set for deafness could have been constructed that included, as a necessary element, a penicillin overdose, as there was no evidence that such an overdose could cause deafness. Thus, the defenders' negligence would not have been deemed a NESS. The NESS test may make causation easier to establish, but it still meets the primary 'criterion' of a useful test: limiting liability in a meaningful way. If adopted, the test would present something of a challenge to the causal minimalists' argument that the causation enquiry is an

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<sup>118</sup> Fischer, 'Insufficient Causes' (n 5) 290-291.

<sup>119</sup> This modification is loosely based on a similar modification made by Wright. See Wright, 'The NESS Account of Natural Causation' (n 7) 304-305.

<sup>120</sup> Fischer, 'Insufficient Causes' (n 5) 288.

<sup>121</sup> *Kay's Tutor* (n 18) 167.

illusory test that is easily satisfied.<sup>122</sup> Far from it, the NESS test would present an uncompromising obstacle to many claims.

Some objections raised against NESS concern its lack of practicability and one key problem in this regard is that of the 'proliferation of NESSs'.<sup>123</sup> Moore has argued that the problem with NESS, and sufficiency theories in general, is the 'sheer number of events and states of affairs' needed to create a sufficient set.<sup>124</sup> He bemoans the fact that, in order for him to compile a list of conditions jointly sufficient for him to write his book, he would need to mention the neurological processes in his brain, his room being sufficiently warm so that his fingers did not freeze, Caesar crossing the Rubicon, the Big Bang and an almost infinite amount of other NESSs.<sup>125</sup>

In addition, a truly sufficient set consists of an infinite amount of negative NESSs, that is, any event the non-occurrence of which was necessary for the set's sufficiency. Thus, in the 'two hunters' example,<sup>126</sup> the fact that the victim was not wearing a bullet-proof vest, that the guns were not loaded with marshmallows rather than bullets, that Bambi's mother did not jump in the line of fire just in time, are all NESSs of the victim's death. In short, for a pursuer to establish, to the point of certainty, the existence of a sufficient set, he or she would have to list all the NESSs of which it was composed, a nigh impossible task. However, in legal practice, the pursuer would only have to establish the existence of a particular sufficient set on the balance of probabilities. More significantly, the large number of positive NESSs (e.g. the existence of gunpowder, the invention of the gun years ago) can usually be expressed by much smaller groups of NESSs. Thus, the NESSs concerning the minutiae of the gun (e.g. the fact that it was loaded, working etc.) and how it was shot (e.g. the distance from which it was shot, the trajectory of the bullet, the fact that the bullet hit the victim etc.) can be neatly packaged into a single NESS: 'hunter 1 shot the victim'. As for the omission NESSs, the very fact that the result in question, namely the victim's death, has occurred suggests that all the 'omission' NESSs were operating at the relevant time. Similarly, both Wright and JS Mill favour the strategy of summarising the vast multitude of omission NESSs as 'the absence of any preventing cause'.<sup>127</sup> There are, therefore, means of applying the test in a practical, efficient way.

Another potential problem regarding practicability is NESS' supposed complexity, on account of which judges have been reluctant to embrace the test.<sup>128</sup> However, as Hogg points out, the test is not inherently complex and its daunting nature can probably be attributed to the 'fanciful examples' favoured by academics to illustrate its application.<sup>129</sup> Thus, the test is only as complex and mysterious as the academics choose to make it and, true to his point, Hogg uses simple,

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<sup>122</sup> R Wright, 'The Nightmare and the Noble Dream: The Road not taken' in Kramer, Grant, Colburn & Hatzistavrou (n 113) 177.

<sup>123</sup> Fumerton and Kress (n 6) 98-99.

<sup>124</sup> Moore (n 52) 477.

<sup>125</sup> *ibid.*

<sup>126</sup> See text accompanying footnote 20.

<sup>127</sup> Wright, 'Acts and Omissions' (n 40) 291.

<sup>128</sup> Hogg, 'Developing Causal Doctrine' (n 8) 47-48.

<sup>129</sup> *ibid.*

comprehensible examples, to illustrate how the test works.<sup>130</sup> Moreover, given the wide range of causation that NESS can detect, it arguably makes causation far simpler than it would be if, say, a judge had to apply three separate tests of 'necessity', 'duplicate necessity' and 'contribution'.<sup>131</sup> There is, however, one way in which NESS could be applied to maximise efficiency and simplicity. It is suggested here that the courts should always apply the 'but for' test first, since it is slightly simpler than NESS. Moreover, it would be unduly cumbersome to have to consider a simple case in terms of NESS. Only when 'but for' does not lead to a finding of causation should courts apply the NESS test. Since all 'but for' causes are NESSs, they would effectively be replacing the 'but for' test with a new test of factual causation, albeit in the simplest manner possible.

## *5. Conclusion*

It is submitted that NESS is the most comprehensive single test of causation that the law could adopt and, therefore, would be an attractive replacement for the 'but for' test. Whereas the 'but for' test can be consistently applied and can limit liability in a meaningful way, it fails to meet the law's need for a fair test of factual causation. Conversely, such alternatives to the 'but for' test as the 'material contribution' test, cannot secure justice without sacrificing clarity in the law. The NESS test's practical utility lies in its ability to satisfy all three of the criteria identified in part II. While NESS' recognition of a broad range of causal involvement allows for fairer results, the reliance on the objective concepts of necessity and sufficiency ensures that the test can still limit liability in a clear-cut manner.

Admittedly, the test is not perfect. Part III identified various theoretical flaws, most notably NESS' inability, strictly speaking, to make a finding of causation in cases of indeterminacy. There are also practical dangers such as the 'proliferation of NESSs' or the fact that NESS' reliance on lawful sufficiency may make causation too easy to establish. Nevertheless, Part III demonstrated that the test can provide a solution to these problems. NESS *can*, in practice, rule out spurious causes such as the barometer 'causing' a storm. Used in a certain way, it *can* detect indeterminate causation. With that point in mind, although it has been argued that the test should be adopted into Scots law, it is argued here that the following supplementary rules would serve to maximise its utility: namely a rebuttable presumption that lawful sufficiency will be enough to establish causation<sup>132</sup> and a 'no longer definitely sufficient' rule.<sup>133</sup>

Moreover, it is fair to say that many of the practical dangers of introducing NESS are outweighed by the benefits. Fischer's 'tsunami' example<sup>134</sup> quite correctly demonstrates that NESS can lead to absurd conclusions, however if the occasional

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<sup>130</sup> *ibid.*

<sup>131</sup> These are all the forms of 'involvement' identified by Stapleton (n 3): see footnotes 85-87.

<sup>132</sup> Discussed above: See text accompanying footnote 113.

<sup>133</sup> Discussed above: See text accompanying footnote 98.

<sup>134</sup> Fischer, (n 5) 'Insufficient Causes' 290-291.



bizarre finding of causation is the price of adopting a test that can recognise a wider category of causation in a logical, consistent manner, it is a price worth paying.

In justifying the 'increase in risk' rule in *McGhee*,<sup>135</sup> Lord Reid commented that the law did not need a philosophically laden account of causation, only one based on common sense.<sup>136</sup> If this article has demonstrated anything, however, it is that adopting a test of factual causation that is logical, rational and dogmatically rigid, can have considerable practical value. Indeed, it is rather puzzling that judges are so averse to 'big theory',<sup>137</sup> for having one test suitable for all causation problems would surely make the law clearer, simpler and more consistent. Given the practical benefits identified above, it seems that NESS, short of being adopted, should at least be taken seriously as a viable alternative to the current law. Judges may have perfectly valid reasons for dismissing NESS as unsuitable, but to ignore the test, to not even consider the potential benefits that would come of adopting it, would be remiss.

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<sup>135</sup> *McGhee* (n 10).

<sup>136</sup> *ibid* 5.

<sup>137</sup> V Black, 'Decision Causation: Pandora's Tool-Box' in JW Neyers, E Chamberlain and SGA Pitel (eds), *Emerging Issues in Tort Law* (Hart Publishing 2007) 310.