

Causal responsibility for uncertainty and risk in toxic torts

Per Laleng*

Despite the exceptional nature of Fairchild v Glenhaven Funeral Services Ltd [2003] 1 AC 32, its formulaic application in low exposure mesothelioma cases has ramifications for the coherence and scope of causal responsibility for harm in the English law of negligence. Existing threshold conditions for its application are either so fluid that the exception could become the norm in all competing cause cases, or they are unacceptably arbitrary. While the formulaic application of the exception in grave harm toxic tort cases can be understood as a chemo-phobic over-reaction to risk, its application in low exposure cases – that is to say, where tortious exposures are less than unavoidable background environmental exposure – cannot be rationally justified. This article urges the Supreme Court of England in Sienkiewicz v Greif (UK) Ltd [2010] 2 WLR 951 and Willmore v Knowsley Metropolitan Borough Council [2009] EWCA 1211 Civ to adopt an overarching threshold condition delimiting the application of the exception to cases where, in reasonable likelihood, the claimant's harm was caused by wrongful conduct. This approach will place reasonably intelligible limits on responsibility for uncertainty and risk in toxic torts and beyond.

INTRODUCTION

Fortunate is he who can understand the cause of things.¹

English common law's contemporary approach to causation in toxic tort cases² mirrors generalised social expectations in relation to protection from risk. The legal trajectory, particularly in the context of mesothelioma³ cases, points towards the absolute limit of "no risk" despite the historic absence of any statutory absolute ban. Whereas orthodox negligence law requires a causal connection between wrongdoing and harm based on the balance of probabilities, the combination of *Fairchild v Glenhaven Funeral Services Ltd* [2003] 1 AC 32 and *Barker v Corus (UK) plc* [2006] 2 AC 572 (in combination hereafter *Fairchild-Barker*) appears to replace probable with possible causation. In addition, *Fairchild-Barker* not only collapses the conceptual distinction between factual and legal causation, but it also seems to collapse causation into breach. This development in this subset of toxic tort cases, seemingly motivated by a general chemo-phobia, potentially dispenses with the concept of causation altogether as a mechanism for allocating responsibility for harm. The logical end-result is non-causal liability that may entail society-wide insurance against all forms of risk-creating activity. This article accordingly advocates the need for necessary threshold conditions to *Fairchild-Barker* that place reasonable limits on responsibility for historic harms in low exposure cases and which in turn places reasonable limits on *Fairchild-Barker*.

The central argument presented here is that for *Fairchild's* exceptional approach to causation to apply in a low exposure toxic substance case, a claimant should be required to prove that the actual

* Lecturer, University of Kent, Barrister and Academic Member of Chambers, Liverpool Civil Law. The author would like to thank Alan Thomson, Nick Piska, Kirsty Horsey and Charles Feeny for their comments on earlier drafts.

¹ Virgil, *Georgics*, No 2, 1 490 in Wilson J, *Inverting the Pyramid* (Routledge, London, 2008) p 1.

² Torts involving exposures to toxic substances that usually produce latent diseases. Toxic torts sometimes share characteristics with mass torts implicating large numbers of claimants or defendants. More importantly, such torts usually rely on scientific concepts to prove causation. See further Rudlin DA (ed), *Toxic Tort Litigation* (American Bar Association, Chicago, 2007); Nagareda RA, *Mass Torts in a World of Settlement* (University of Chicago Press, London, 2007); Cranor CF, *Toxic Torts: Science, Law and the Possibility of Justice* (Cambridge University Press, Cambridge, 2006).

³ A cancer, predominantly of the lining of the body's internal organs, particularly the lung, that is strongly associated with exposure to asbestos.



exposure was in reasonable likelihood capable of causing the claimant harm. In the absence of any other claimant-specific evidence, the appropriate way to prove this is by establishing that the wrongful exposure more than doubled the background risk of harm. Such a test gives concrete meaning to the materiality of *Fairchild's* "material increase in risk" test for causation and makes sense of its exceptional nature. In this way, *Fairchild-Barker* would avoid normatively unacceptable and arbitrary distinctions within toxic torts and between such torts and others. This facilitates a more coherent law of negligence while preserving assets for future claims in a field of tort liability where the end is far from sight.⁴

The disadvantage of this reading is that it potentially prejudices some claimants who have suffered very low levels of asbestos exposure in breach of a common law duty. The normative justification for the rule is that it is only a remote possibility that injury suffered by such claimants is the result of a defendant's negligence. Furthermore, a defendant's duty would not be emptied of content in circumstances where concerns for deterrence are practically irrelevant in the context of long-tail historical exposure cases and when the vast majority of mesothelioma victims would continue to succeed under a more tightly prescribed *Fairchild* test. Despite the apparently narrow focus of this intervention, it remains important given the broader implications of the Supreme Court's forthcoming opinions in two low-exposure asbestos cases, *Sienkiewicz v Greif (UK) Ltd* [2010] 2 WLR 951 and *Willmore v Knowsley Metropolitan Borough Council* [2009] EWCA 1211 Civ in October 2010.

THE CONCEPT OF CAUSATION IN NEGLIGENCE: ALLOCATING RESPONSIBILITY FOR HARM

All rules of negligence law are functions of and subservient to that particular tort's ultimate aim of allocating responsibility for harm. Subsidiary tort doctrines and rules cannot avoid this allocative role. Simultaneously, they represent the limits of responsibility for harm. It follows that rules relating to causal responsibility are necessarily normative, because to delimit responsibility is unavoidably an evaluative decision. A further implication of this insight is that there is no such thing as objective causation in law. Even if controversial, this conclusion ought to be unsurprising given that all causal statements are both interpretative⁵ and probabilistic: interpretative because they are "inextricably bound up with the way [legal] communities attempt to make sense ... of misfortune";⁶ probabilistic because, ultimately, we can never know for certain what happened in any situation. We can make general causal statements with varying degrees of confidence, but such statements are based on prior imperfect knowledge of similar events.

Put differently, the probabilistic nature of causal statements is a function of epistemological uncertainty attendant on all forms of inductive reasoning. Such reasoning is characteristic of legal reasoning in relation to causation. But whereas in science, eg, probabilities remain a measure of uncertainty, in orthodox legal thinking, probability either side of evens is determinative. In law, therefore, the balance of probability standard of proof represents a fiction of certainty while simultaneously operating to allocate responsibility for inherent uncertainty. That standard of proof in private civil law has traditionally operated as a practical compromise between, on the one hand, our

⁴ On 22 February 2007, Cancer Research UK reported that deaths from mesothelioma are not expected to peak until 2015. The total number of mesothelioma-related deaths was estimated at between 200,000 and 250,000: see <http://info.cancerresearchuk.org/news/archive/cancernews/2007-02-22-asbestos-cancer-toll-will-not-peak-until-2015> viewed 30 July 2010. For slightly lower projections, see Peto J, *Occupational, Domestic and Environmental Mesothelioma Risks in Britain: A Case Control Study* (Health & Safety Executive Books, Research Report 696, 2009).

⁵ Stapleton J, "Unpacking Causation" in Cane P and Gardner J (eds), *Relating to Responsibility* (OUP, Portland, Oregon, 2001) p 19.

⁶ Furedi F, "Precautionary Culture and the Rise of Possibilistic Risk Assessment" (2009) 2(2) *Erasmus LR* 197 at 201.



interest in freedom of action and, on the other, our interest in protection from harm and its repair.⁷ As a confidence standard, the bar is set relatively low. Any further dilution of this standard requires cogent justification.⁸

It is generally accepted that the application of the conventional tests for causation in *Fairchild* would have produced unacceptable results.⁹ To leave mesothelioma victims uncompensated despite the defendants' admissions that the cancer was probably caused by a breach of duty runs contrary to basic notions of justice, particularly where such a victim would have no problem proving causation by conventional means if there had only been one negligent employer. Accordingly, the House of Lords in *Fairchild* decided that, under certain conditions, a claimant could satisfy the law's causal requirements by proving that a defendant's breach of duty "materially increased the risk" of the harm that eventuated provided that the contribution to risk was more than de minimis.¹⁰

By a majority in the later case of *Barker*, the House of Lords built on *Fairchild* by suggesting that the gist of the damage within the rule was the risk of harm rather than the harm itself. It must be emphasised that neither *Fairchild* nor *Barker* explicitly dispensed with the requirement for a causal connection between wrongful conduct and harm. The cases sought to redefine the nature of that link and adopted a novel rule for causation in specific circumstances. Moreover, despite *Barker* seemingly reinterpreting *Fairchild* as having created a new tort,¹¹ the structure of that tort (if, indeed, it is one) reflects the traditional equation of tort liability as the product of duty, breach, causation and damage.

However, there is a reading of *Fairchild-Barker* that casts doubt on this traditional frame of reference not only because the cases seem to collapse the orthodox conceptual division between factual and legal causation, but they also collapse causation into fault. Put another way, *Fairchild-Barker* may be read not only as a fairly open recognition of the normative or policy-driven nature of the causal question in general, but more significantly as a dispensation of the causal requirement altogether in some cases.

The collapse of factual and legal causation

The traditional frame of reference provides fairly limited guidance in the context of *Fairchild-Barker* unless it can be suggested that a test of causation based on material increase of risk of harm simply resonates with commonsense notions of the just allocation of responsibility that is in turn based on a general social perception of risk-creation as a wrong in itself. However, *Fairchild-Barker* has not expressly taken this step. Rather, it collapses the orthodox conceptual distinction between cause-in-fact and cause-in-law. This is to an extent understandable: in the context of toxic torts, to ask whether a defendant's wrong was, to use Stapleton's terminology, "historically involved"¹² in a claimant's harm is misconceived and appears to ask the wrong question, and as Stevens poignantly observes: "if you ask a silly question, you get a silly answer."¹³ In toxic torts, the answer to the question "did the claimant's damage result from the defendant's wrong?" is more often than not "we just don't know" – which is not a very helpful answer in a legal forum.

Lord Hoffmann has come closest to identifying the factual question to which law requires an answer. For him, in *Fairchild* (at [52]), the factual question is simply: "have the law's causal

⁷ Cane P, *Responsibility in Law and Morality* (Hart Publishing, Oxford, 2002) p 123.

⁸ For a similar point, see Bailey SH, "Causation in Negligence: What is Material Contribution?" (2010) 30(2) LS 167 at 185.

⁹ Beever is a lone voice in arguing that the conventional "but for" test could have been adopted in *Fairchild* to produce an acceptable result for the claimants. However, it is difficult to follow his argument. See Beever A, *Rediscovering the Law of Negligence* (Hart Publishing, Oxford, 2007) pp 475-484.

¹⁰ *Fairchild v Glenhaven Funeral Services Ltd* [2003] 1 AC 32 (Lord Bingham at [6], [21]; Lord Nicholls at [42]; Lord Hoffmann at [47], [52], [63], [65]; Lord Hutton at [109]; Lord Rodger at [142]-[143], [152], [168]).

¹¹ In *Sienkiewicz v Greif (UK) Ltd* [2010] 2 WLR 951 both Smith LJ (at [18]) and Lord Clarke (at [55]) suggest this, but their Lordships in *Fairchild* and *Barker* do not in fact say so in terms.

¹² Stapleton, n 5.

¹³ Stevens R, *Torts and Rights* (OUP, Oxford, 2007) p 144.



requirements been met?”¹⁴ Continuing (at [54]), he suggests that those requirements are not “expressions of some form of logic ... but creatures of the law”. Lord Bingham agreed (at [20]) when approving the aphorism that “the legal concept of causation is not based on logic or philosophy”. Reducing the factual question in this way not only means that all causal questions would be questions of “fact”,¹⁵ but also becomes confusing when the real question being asked seems to relate to proximate cause, which in orthodox thinking is a question within the realms of legal causation. This conflation is also unhelpful if the precise meaning of the policy-driven causal requirement is unclear, particularly if the policy behind the rules remains unarticulated. Although the choice of rule in *Fairchild* was explicitly justified on policy grounds, as Morgan has noted, “a general reference to ‘policy’ is hardly a sufficient justification in itself”.¹⁶

Collapsing causation into breach

The lack of clarity becomes starker after a moment’s thought about the possible meaning of the material increase in risk test for causation. Its jurisprudential source can be traced to *Bonnington Castings v Wardlaw Ltd* [1956] AC 613 via the two other Scottish cases of *Nicholson v Atlas Steel Foundry & Engineering Co Ltd* [1957] 1 WLR 613 and *McGhee v National Coal Board* [1973] 1 WLR 1. Although *McGhee* is usually credited with being the progenitor of *Fairchild*, the role of *Nicholson* within the jurisprudential development should not be underestimated. Although *Nicholson* is more akin to *Bonnington* than *McGhee*,¹⁷ both Lords Bingham (at [15]) and Rodger (at [131]-[133]) in *Fairchild* highlighted the relevance of risk-creation to the causal analysis provided in *Nicholson*. Lord Hoffmann also emphasised (at [56]) the doctrinal connection between the rules relating to breach and causation.

This doctrinal connection between breach and causation is significant for the argument presented here because a defendant in breach of a common law duty of care has by definition increased the risk of damage by such conduct. Risk can be defined as the product of the probability of an event happening and the severity of harm. In broad terms, this reflects one side of the breach analysis. The counter-balance is provided by considerations of the practicability and cost of precautions against that risk. It follows that a failure to reasonably reduce foreseeable risks not only amounts to a breach of duty but also represents an increase in the risks. Conversely, if a risk is so small (*de minimis*) that a reasonable person could legitimately ignore it, there will be no breach notwithstanding the eventuation of damage.¹⁸

This analysis of breach not only resonates linguistically with *Bonnington*’s *de minimis* threshold for causation, but may also explain Viscount Simonds’ remarks in *Nicholson* (at [618]) where he suggested that once breach is proved, “it requires little further to establish a causal link between that default and the illness ... Something is required as was held in [*Bonnington*] ... But it must not be pressed too far.” The implication is that proof of breach (by way of an unreasonable failure to reduce risks) goes a long way towards proving causation. If the causal rules only require proof of a material (more than *de minimis*) increase of risk for proof of causation, then it becomes understandable why *Fairchild* in turn becomes formulaically applied once breach of duty is proved and why *Fairchild* can be read as collapsing the causation question into the breach question and thereby dispensing with the need for the concept of causation as a connecting concept altogether.¹⁹

The approach in *Fairchild* is not, however, quite as simple as equating proof of breach with proof of causation. The decision has been noted “for its seamless interweaving of civil and common law

¹⁴ Lord Hoffmann has made a similar point writing extra-judicially: see Hoffmann L, “Causation” (2005) 121 LQR 592.

¹⁵ This has practical ramifications given the procedural limitations on appealing questions of fact.

¹⁶ Morgan J, “Lost Causes in the House of Lords: *Fairchild v Glenhaven Funeral Services*” (2003) 66(2) MLR 279.

¹⁷ Medical evidence in *Bonnington Castings v Wardlaw Ltd* [1956] AC 613 assigned a more than *de minimis* and historical role to the defendant’s breach in the causation of the pursuer’s pneumoconiosis.

¹⁸ *Bolton v Stone* [1951] AC 850 at 867 (Lord Reid).

¹⁹ Moreover, as the breach question is conventionally understood as being a question of fact, it seems logical that the causation question must equally be considered a question of fact albeit not in the usual sense of “factual cause”.



authorities”,²⁰ but “even Hercules would find it impossible to weave a seamless web out of threads from so many and so diverse a range of legal systems”.²¹ In those circumstances, it is unsurprising that it is difficult to distil a convincing and uncontentious ratio from the decision. The difficulty is compounded by the interpretation of *Fairchild* offered by the majority in *Barker*.

Barker’s reinterpretation of Fairchild

Until *Barker*, it could be tentatively suggested that where the *Fairchild* exception applied, a material increase in risk would be treated *as if* it were a material contribution to harm along the lines of *Bonnington*.²² The result of *Fairchild* was “a chaotic body of law that [lost] the overall effect of the difference between the two causal doctrines”.²³ The pre-*Barker* position, effectively equating the two doctrines, would no doubt also have resulted in the need for strenuous intellectual gymnastics if Bailey’s argument that *Bonnington* is not an exception to the “but for” test at all is correct,²⁴ because it is difficult to discern any common ground between “but for” and “material increase in risk” as tests for causation apart from the fact that they are both tests for allocating responsibility. However, the majority in *Barker* agreed that *Fairchild* does not stand for the equation of the two doctrines; rather it redefines the gist of the damage as the risk of harm and exceptionally permits a claimant to prove causation by way of proof of a material increase in risk.²⁵

On any view, however, *Fairchild-Barker* appears to replace causal responsibility based on probabilities with liability for possibilities. This is a significant dilution of the traditional standard of proof in the law of negligence and requires justification. It may well be normatively appropriate to permit proof of a causal link between wrongful conduct and harm based on possibilities in circumstances where risk-creation is increasingly perceived to be a wrong in itself,²⁶ but this is not the justification offered in either case. Moreover, unless there are intelligible limits to the scope of *Fairchild-Barker* then there is also a possibility that this “new” tort on the legal landscape could become the norm for causal responsibility in the law of negligence generally, at least in cases of competing causes.²⁷ Again, this may not be objectionable, but the ultimate logic of this development is a society-wide requirement for general insurance against all forms of risk-creating activity that would operate on the basis of non-causal indemnity insurance. This is neither the basis upon which insurance companies have historically underwritten risk, nor would it require the tort system for its ultimate administration.

²⁰ Oliphant K, “*Fairchild v Glenhaven Funeral Services Ltd* (2002)” in Mitchell C and Mitchell P (eds), *Landmark Cases in the Law of Tort* (Hart Publishing, Oxford, 2010) p 339.

²¹ Morgan, n 16 at 282.

²² *Fairchild v Glenhaven Funeral Services Ltd* [2003] 1 AC 32 (Lord Bingham at [21]; Lord Rodger at [142]-[143], [168]). See further, Stapledon J, “Lords A’leaping Evidentiary Gaps” (2002) 10 TLJ 276.

²³ That is to say, material contribution to harm and material increase in risk of harm. Quotation from Knutsen ED, “Ambiguous Cause-in-Fact and Structured Causation: A Multi-jurisdictional Approach” (2003) 38 Tex Int’l LJ 249 at 269.

²⁴ Bailey, n 8 at 167.

²⁵ *Barker v Corus (UK) plc* [2006] 2 AC 572 (Lord Hoffmann at [35]; Lord Scott at [50]; Lord Walker at [103]). In *Sienkiewicz v Greif (UK) Ltd* [2010] 2 WLR 951 Smith LJ (at [18]) and Lord Clarke (at [55]) agreed with this interpretation without further elaboration. For case commentaries on *Sienkiewicz*, see Bennett TDC, “Material Increase in Risk of Mesothelioma under Section 3 of the Compensation Act 2006” (2009) 29(4) PN 210; Amirthalingam K, “Causation, Risk and Damage” (2010) 126 LQR 162; McCarthy F, “*Sienkiewicz v Greif (UK) Ltd*: Negligence – Asbestos – Causation – Duty of Care” (2010) 1 JPI Law C4; O’Sullivan J, “Mesothelioma and Risk Aired in the Court of Appeal” (2010) 69(1) CLJ 10; Steel S, “Uncertainty Over Causal Uncertainty” (2010) 73(4) MLR 643.

²⁶ Consider Beck and Giddens’ general sociological interpretations of modern society as “risk society”: Beck U, *Risk Society: Towards a New Modernity* (Sage, London, 1993); Giddens A, *The Consequences of Modernity* (Stanford University Press, California, 1990). For a sociological critique of possibilistic risk-management see Furedi, n 6. For recent case law supporting the notion that risk-creation is a wrong in itself, see eg *Chester v Afshar* [2005] 1 AC 134 and in a more general context, consider the Goldman Sachs executives’ denial that risk-taking is a wrong per se: *The Guardian* (20 April 2010).

²⁷ Given the ease with which competing causes can be found, it is not difficult to envisage its extension to all negligence actions.



On this reading of *Fairchild-Barker*, therefore, the law's causal requirements operate purely as a rhetorical device²⁸ for "distributing the cost of epistemological uncertainty"²⁹ onto defendants for possibly caused harm. Such allocation is based on little more than the confluence of risk-creation and the eventuation of serious harm within a duty context where causation, as conventionally understood, becomes utterly redundant. In short, *Fairchild* may on this alternative view indeed represent a revolutionary dissolution of the concept in the context of some toxic torts and beyond. The argument presented here is that the concept of causation has not been dissolved entirely and that it is possible to understand *Fairchild-Barker* as retaining it while also delimiting its scope.

It is important to re-emphasise that *Fairchild* only applies exceptionally³⁰ and should not "swallow up the [standard] rule[s]".³¹ If it is an exceptional test or indeed a tort to be used in exceptional circumstances, the implication is that it must contain necessary threshold conditions. In other words, *Fairchild-Barker* requires a bifurcated reading: before the substantive material increase in risk test is engaged, certain threshold conditions must be met. The reason why there must be threshold conditions is because without such conditions, there would be practically no limits on responsibility for the risks of mesothelioma or other harms falling within the exception other than that the harm must have eventuated.

THE THRESHOLD CONDITIONS

Despite extensive attempts in *Fairchild* to construct a set of threshold conditions, claimants have understandably chipped away at them³² even if such attempts have not always succeeded.³³ Notwithstanding, the candidate threshold conditions remaining after *Barker* appear to be as follows (although they tend to merge into each other as well as merging with the substantive rule itself):

Eventuated harm

Despite the redefinition of the gist of the action, damage must in fact have eventuated (Lord Hoffmann at [45] and [48]). The function of this condition seems to be to prevent claims based on pure exposure to noxious substances without damage (such as in the pleural plaques case of *Grieves v FT Everard & Sons Ltd* [2008] 1 AC 281). This is a bright-line rule and requires little further elaboration here except to note Miller's observation that "by confining attention (and liability) strictly to eventuated risks, the risk and injury, although distinguishable concepts, remain intimately tied together".³⁴ A problem with the idea of eventuation is that causation can to an extent be implied as discussed below.³⁵

Eventuated harm an industrial disease?

There were suggestions in *Fairchild*³⁶ that the eventuated damage should be capable of being classified broadly speaking as an industrial disease although their Lordships recognised the possibility of future analogical development. This characteristic was mooted in an apparent attempt to distinguish *Fairchild*-type cases from clinical negligence cases. *Fairchild* is not, therefore, a mesothelioma exception (James McGhee's dermatitis belies this interpretation); nor, as argued below, and despite indications to the contrary by the Court of Appeal in *Sienkiewicz* (at [18]-[19]), does the

²⁸ Knutsen, n 23.

²⁹ Cane, n 7, p 125.

³⁰ *Fairchild v Glenhaven Funeral Services Ltd* [2003] 1 AC 32 (Lord Hoffmann at [69]); and *Barker v Corus (UK) plc* [2006] 2 AC 572 (Lord Hoffmann at [1], [13]; Lord Scott at [64]; Lord Walker at [105]; Lord Rodger at [67]).

³¹ *Barker v Corus (UK) plc* [2006] 2 AC 572 at [5] (Lord Hoffmann).

³² For example, *Transco plc v Griggs* [2003] EWCA Civ 564; see also *AB v British Coal Corp* [2004] EWHC 1372 (albeit in the context of contribution proceedings).

³³ *Clough v First Choice Holidays & Flights Ltd* [2006] EWCA Civ 15; *Sanderson v Hull* [2008] EWCA Civ 1211.

³⁴ Miller C, "Liability for Negligently Increased Risk: The Repercussions of *Barker v Corus UK (plc)*" (2009) 8(1) LP&R 39 at 42.

³⁵ For a critique of risk as damage in the United States context, see Wright RW, "Liability for Possible Wrongs: Causation, Statistical Probability, and the Burden of Proof" (2008) 41 Loy Los Ang L Rev 1295.

³⁶ *Fairchild v Glenhaven Funeral Services Ltd* [2003] 1 AC 32 at [34], [44], [69], [74], [129].



Compensation Act 2006 (UK)³⁷ render *Fairchild* applicable in all mesothelioma cases. More importantly, caution must be exercised when thinking about the industrial disease category because causation may inadvertently be read into the disease in the same way that causation is implied in post-traumatic stress disorder (PTSD).³⁸ Just as PTSD can be read as stress resulting from (post) stress, so too the industrial disease in question may be assumed, without more, to have an industrial cause.

Although it is self-evident that mesothelioma could be classified as an industrial disease, if a threshold condition is eventuated industrial disease broadly speaking, mesothelioma becomes “vulnerable”³⁹ to any modified causation rule because it is a “signature disease”⁴⁰ given its strong association with asbestos dust. But not all mesotheliomas are caused by asbestos dust. Some experts suggest that in the region of 15-33%⁴¹ of mesotheliomas have non-asbestos-related or idiopathic (ie unknown) causes, and that there is in fact a “true background level”⁴² of mesothelioma.

A second reason for urging caution is that *Barker’s* reinterpretation of *Fairchild* means that the damage in question is the risk of harm. So although it could be argued that the exception might apply where there has been a negligent increase in the risk of contracting an industrial-type disease, this does not avoid the contortions required to explain how cases such as *Willmore* would fall within it. In *Willmore*, the deceased was exposed to asbestos as a pupil in a school corridor and in the girls’ toilets after workmen had removed some asbestos-containing ceiling tiles. It is difficult to see any industrial connection here unless it is defined very widely. In short, it is problematic to sustain a threshold condition based on the notion of industrial disease and it is suggested that this is not a coherent threshold condition.

“Agents operating in substantially the same way”

The exception is delimited by the nebulous category of cases involving “agents [that is to say, substances] operating in substantially the same way”.⁴³ The function of this condition, like the industrial disease category discussed above, is to distinguish the exception from multiple causal agent cases such as *Wilsher v Essex Area Health Authority* [1988] AC 1074. There is, however, some doubt about what this threshold condition actually means and it remains to be played out in case law.⁴⁴ To date it seems to offer a somewhat thin justification for the distinction between the *Wilsher* situation and that of *Fairchild*, masking hidden policy considerations favouring NHS defendants while at the same time avoiding the need for the Supreme Court to overrule earlier House of Lords authority. Burrows argues that this threshold condition should

³⁷ For general commentary on the Act see Herbert R, “The Compensation Act 2006” (2006) 4 JPI Law 337; and Master Whitaker, “Mesothelioma and the Compensation Act 2006” (2006) 3(12) CCN.

³⁸ Jones MA, “Liability for Psychiatric Damage: Searching for a Path between Pragmatism and Principle” in Neyers J, Chamberlain E and Pitel S (eds), *Emerging Issues in Tort Law* (Hart Publishing, Oxford, 2007) p 134.

³⁹ Behrens MA and Anderson WL, “The ‘Any Exposure’ Theory: An Unsound Basis for Asbestos Causation and Expert Testimony” (2008) 37 SW UL Rev 479 at 494.

⁴⁰ Sanders J et al, “The Insubstantiality of the ‘Substantial Factor’ Test for Causation” (2008) 73 Mo L Rev 399 at 401.

⁴¹ Goodman JE et al, “Ionizing Radiation: A Risk Factor for Mesothelioma” (2009) 20 *Cancer Causes Control* 1237; Peto, n 4.

⁴² Most recently, see Peto, n 4, p 45 suggesting that, at most, 33% of mesotheliomas in women are genuinely spontaneous and unrelated to asbestos exposure. See further Huncharek M, “Non-asbestos Related Diffuse Malignant Mesothelioma” (2002) 88 *Tumori* 1; Weiner S et al, “Pathogenesis of Malignant Pleural Mesothelioma and the Role of Environmental and Genetic Factors” (2008) 7 *Journal of Carcinogenesis* 3; Magnani C et al, “Multicentric Study on Malignant Pleural Mesothelioma and Non-occupational Exposure to Asbestos” (2000) 83(1) *British Journal of Cancer* 104.

⁴³ This was first raised by Lord Rodger in *Fairchild v Glenhaven Funeral Services Ltd* [2003] 1 AC 32 at [147] and [170], citing *Browne-Wilkinson LJ* in the Court of Appeal in *Wilsher v Essex Area Health Authority* [1987] QB 730 at 779; see also *Barker v Corus (UK) plc* [2006] 2 AC 572 (Lord Hoffmann at [23]); Lord Scott at [64]); applied by Lord Clarke in *Sienkiewicz v Greif (UK) Ltd* [2010] 2 WLR 951 at [53].

⁴⁴ Scherpe JM, “A New Gist?” (2006) 63(3) CLJ 487 at 488; see further Amirthalingam K, “Causation and the Gist of Negligence” (2005) 64(1) CLJ 32.



best be viewed as a flexible control device to hold back the floodgate of litigation ... [H]owever, if that is so, transparency of reasoning dictates that the policy ought to be properly articulated “up front” rather than being hidden behind the pretence that there is a clear-cut “single agent” principle that reconciles [disparate cases].⁴⁵

Revealingly, according to Lord Hoffmann in *Barker* (at [23]), “it is an essential condition for the operation of the exception that the impossibility of proving that the defendant caused the damage arises out of another potential causative agent which operated in the same way”. Here Lord Hoffmann explicitly links the “agent operating in substantially the same way” theory to the next threshold condition of impossibility of proof.

Impossibility of proof

The current state of scientific knowledge about the medical causation of the claimant’s disease is such that the claimant is faced with an impossibility of proof under the standard causation rules.⁴⁶ Those rules would unjustly fail the claimant by reason of their inability to give reasonable answers particularly in cases of under-determined cause. This criterion is clearly relevant in mesothelioma cases but equally in any case where scientific or pathological knowledge is unclear.

As Smith LJ noted in *Sienkiewicz*, there was a time when medical science favoured the “single fibre” theory⁴⁷ in the causation of mesothelioma. This is no longer in vogue. Continuing, she suggested (at [16]) that it is “generally accepted that there is some risk arising out of very slight exposure and that the risk increases with the degree of exposure”. Too much ought not be read into Smith LJ’s use of the word “slight” here because there is a dearth of epidemiological evidence studying the risks associated with very low-level asbestos exposure. The Peto paper, for instance, which is the largest case study of mesothelioma in the world, supports the notion that there is no statistically significant risk of mesothelioma in low-risk workplaces where asbestos may have been used.⁴⁸ So although it can be said that it is not known whether there is a safe threshold below which there is no risk, that is not to say that there is no such threshold.

It must therefore be doubted whether the tendency by courts in England (as exemplified by *Sienkiewicz* and *Willmore*) to treat any exposure to asbestos as creating an increased risk of mesothelioma is normatively appropriate in the light of uncertain and developing medical science. Moreover, as Steel has argued, if a threshold condition for the application of *Fairchild-Barker* is impossibility of proof, it is difficult to fathom why no analysis of that condition was undertaken in *Sienkiewicz* in circumstances where the defendants adduced evidence of sufficient probative force to disprove causation.⁴⁹

Probable victim of tort?

The theory of the agent operating in substantially the same way, and the condition of impossibility of proof, have significant implications for low exposure “competing cause” cases. At first instance in *Sienkiewicz*, the defendants argued that the deceased’s condition was idiopathic. It is important to understand that the argument here was that the medical cause of mesothelioma was unknown. On one level, this could be said to be a function of impossibility of scientific proof. But that impossibility is no different from the impossibility faced by Martin Wilsher in relation to the causation of his blindness where there were five equally likely causes in play. Although Smith LJ records (at [6]) that the argument relating to idiopathy was “not pursued vigorously” at trial and also that the judge at first

⁴⁵ Burrows A, “Uncertainty About Uncertainty: Damages for Loss of Chance” (2008) 1 JPI Law 31 at 40.

⁴⁶ *Fairchild v Glenhaven Funeral Services Ltd* [2003] 1 AC 32 (Lord Bingham at [2], [33]; Lord Hoffmann at [61]; Lord Rodger at [152]-[153], [170]). In a minority, Lord Hutton (at [109]) did not think this was a precondition. See also in this context, Lord Hope of Craighead, “James McGhee – A Second Mrs Donoghue?” (2003) 62(3) CLJ 587 at 594.

⁴⁷ That is to say that a single fibre is responsible for triggering the malignant processes leading to mesothelioma.

⁴⁸ Peto, n 4, conclusion 5.

⁴⁹ Steel, n 25 at 651.



instance found as a fact that the mesothelioma in that case was caused by asbestos (and more confusingly, by way of environmental exposure),⁵⁰ it is likely that this argument will be reventilated in the Supreme Court.

The significance of the defendant's argument is that if the medical cause is idiopathic, it follows that the claimant cannot prove that her case falls within the exception because it is not in any meaningful sense a case of agencies operating in substantially the same way. The medical cause of the mesothelioma could be asbestos or it could be something else and there is no evidence one way or the other whether that something else operated in substantially the same way as the asbestos agency. If *Fairchild* were extended to cover this situation, there would be very little left of the exception beyond a generalised impossibility of proof that would also cover the *Wilsher* situation. Any attempt at distinguishing the two would be completely arbitrary.

If, on the other hand, the medical cause is assumed to be asbestos, the next question is whether the exception nevertheless remains inapplicable. Both *Sienkiewicz* and *Willmore* are very different from *Fairchild* and *Barker*. In *Fairchild*, the defendants conceded that the mesothelioma was probably caused by a breach of duty. In justifying their decision on the "balance of justice", the House of Lords attached significant weight to the factor that the victims were probable or likely victims of someone's tort or wrongful conduct.⁵¹ In *Barker*, the claimant had exposed himself to asbestos in the course of self-employment as well as having been exposed by a defendant in breach of duty. *Barker* therefore extended the *Fairchild* exception beyond probable victims of tort.

In both *Fairchild* and *Barker*, asbestos exposure had been substantial whereas in *Sienkiewicz*, the deceased had been negligently exposed to relatively small quantities of asbestos dust at work (assessed by the trial judge at 18% of background levels which although as a proportion sounds high, is still 18% of a very small total asbestos dose. Put another way, background exposure was more than five times as heavy as occupational exposure.) In *Willmore* the deceased had been negligently exposed to asbestos dust in small quantities although there was no specific finding in regard to the proportionate extents of asbestos exposure. But on any reasonable view, the total dose would have been very low.

On the face of it, therefore, it would seem that the exception should apply because we are dealing with asbestos dust from two sources operating in substantially in the same way, and the claimant faces an impossibility of proof in establishing causation in law under the conventional tests. Moreover, in *Barker*, Lord Hoffmann suggested (at [17]) that it ought to be irrelevant what the other source of asbestos dust was for the exception to apply; Lord Scott suggested (at [59]) that it would apply to a victim who was "not working for reward" at the time of some exposure; and Lord Rodger said (at [97]) that it would apply even if the other exposure was "lawful". In *Sienkiewicz* (at [55]) Lord Clarke relied on Lord Scott's formulation in *Barker* in support of applying the *Fairchild* exception to the facts of *Sienkiewicz* where the other source of asbestos exposure was environmental.

Two points need to be made here. First, the comments made by their Lordships in this context are obiter and are therefore not binding. The House of Lords in *Barker* was not dealing with a situation where environmental exposure was expressly deemed relevant to the causal inquiry in any way. Secondly, and more importantly, the extension of *Fairchild* beyond the probable victim of tort in *Barker* was undertaken in the context of the second question considered by the House of Lords, namely whether damages should be apportioned. All the opinions in *Barker* link these two issues together in various ways.⁵²

This linkage is significant because a logical corollary of the *Fairchild* extension to victims who have also suffered causally relevant non-tortious exposure to a noxious substance is that the arguable

⁵⁰ Confusingly because if the mesothelioma was caused by environmental exposure, then it is impossible to understand why the defendant should then be held responsible for it in the Court of Appeal on any sensible view of causation.

⁵¹ *Fairchild v Glenhaven Funeral Services Ltd* [2003] 1 AC 32 (Lord Bingham at [11], [33]; Lord Nicholls at [41]; Lord Hoffmann at [62]; Lord Hutton at [114]; Lord Rodger at [156]-[157]); and see *Barker v Corus (UK) plc* [2006] 2 AC 572 (Lord Scott at [57]; Lord Walker at [117]).

⁵² *Barker v Corus (UK) plc* [2006] 2 AC 572 (Lord Hoffmann at [25]; Lord Scott at [61]; Lord Rodger at [99], [101]; Lord Walker at [117]; Baroness Hale at [122]).



unfairness to defendants created by a pro-claimant causation rule is, to an extent, self-correcting where damages are apportioned in proportion to the defendant's contribution to the global risk.⁵³ Furthermore, despite disagreeing strongly with the majority in *Barker* about the redefinition of the gist of the damage, Lord Rodger only agreed with the principle of extending *Fairchild* in *Barker* (at [101]) because of the proposed introduction of proportionate liability. Lord Walker's opinion (at [117]) is in similar terms. Given that Baroness Hale (at [129]) agreed with both Lord Hoffmann and Lord Walker, it follows that there is in fact no clear majority ratio in *Barker* favouring the extension of *Fairchild* beyond probable victims of tort despite *McGhee*. Moreover, given that s 3 of the *Compensation Act 2006* has reversed the unanimous decision relating to proportionate liability in mesothelioma cases, there must be considerable doubt about whether *Fairchild* should apply where the victim is not a probable victim of wrongdoing.

REASONABLE LIMITS ON RESPONSIBILITY IN LOW EXPOSURE CASES

It cannot confidently be asserted that the deceased in *Sienkiewicz* or *Willmore* were probable victims of tortious conduct unless it is assumed that any negligent exposure to asbestos is sufficient to satisfy causation. The contention here is that such an approach is contrary to the principle of even-handed justice (not only between claimants and defendants, but as between claimants in different cancer cases, for example), far removed from having reasonable limits on causal responsibility and is arguably motivated by an overly emotive and chemo-phobic response to hard cases.

[A]sbestos has for years held sway as perhaps the most feared of industrial exposures. At the same time, asbestos litigation has also earned a reputation as the most out of control of all tort litigation. The history of asbestos is indeed a terrible one, with great loss of life ... That history is not a basis for blaming every fiber and every breath for asbestos disease in today's litigation environment.⁵⁴

It is important to be mindful of Lord Bingham's reminder in *Fairchild* (at [9]) that the causation rules are designed to determine "just responsibility"; or according to Lord Hoffmann (at [57]) to place "reasonable limits on responsibility". These observations are consistent with tort law's overall aim of allocating responsibility for harm justly and the question that arises is whether the current limits on responsibility are reasonable. The question is important because, as Knutsen has rightly observed,

generally, once an alternative causal approach is first developed in the common law, its use as a future precedent is reduced to a nearly automatic application when the court deems its use necessary.⁵⁵

Exemplifying reasonable limits on responsibility

On the assumption that *Fairchild-Barker* does not simply collapse causation into fault rendering the concept of causation redundant, the question of whether it places reasonable limits on responsibility can best be approached by contrasting two different low exposure scenarios. The first scenario is akin to *Sienkiewicz* and *Willmore*: a person is exposed to unavoidable background levels of asbestos dust as well as being exposed in breach of duty to levels which in totality are less than the total dose of background exposure (Scenario A). In the second scenario, a person is exposed to asbestos by two defendants in breach of duty: with defendant 1 (D1) the exposure is low but proportionately higher than background levels, with defendant 2 (D2) the exposure dwarfs all other asbestos exposure put together (Scenario B). For the sake of argument, in Scenario B, the claimant's exposure with D2 represents 99.9% of all asbestos exposure but because D2 is either uninsured or otherwise unable to meet its liabilities, the claimant sues D1. Comparing Scenarios A and B, the claimant in Scenario B will have been exposed to much higher levels of asbestos with D1 than the claimant in Scenario A. Yet it is quite likely that a medical expert might reasonably conclude that claimant B's exposure with D1 was de minimis in terms of its proportion to the total dose even though that exposure – proportionately speaking – exceeded background levels. As things stand, claimant A succeeds on the basis of *Sienkiewicz* and *Willmore*, whereas Claimant B loses against D1. This outcome seems counterintuitive.

⁵³ The body of academic literature on proportionate liability is vast and the majority appears to favour proportionate liability. That proportionate liability represents a discount on full damages is obvious, but that discount is arguably the closest thing available to reflect the inevitable uncertainties in this field of law.

⁵⁴ Behrens and Anderson, n 39 at 510.

⁵⁵ Knutsen, n 23 at 260, fn 38.



The application of *Rutherford v Owens-Illinois*

The key to redressing this imbalance lies in a bifurcated reading of *Fairchild* that qualifies the threshold condition relating to impossibility of proof before the substantive rule of material increase in risk is engaged. In *Fairchild*, four of their Lordships⁵⁶ said that the material increase in risk test was an application of the California Supreme Court case of *Rutherford v Owens-Illinois* 16 Cal 4th 953; 941 P 2d 1203 (1997). In *Rutherford*, the California Supreme Court opined (at [1219] and [1223]) that

we can bridge [the] gap in the humanly unknowable by holding that plaintiffs may prove causation in asbestos-related cancer cases by ... first establish[ing] some threshold exposure to [asbestos],^[57] and must further establish in reasonable medical probability that a particular exposure or series of exposures was a “legal cause” of his injury, ie a substantial factor in bringing about the injury ... [by] contributing to the aggregate dose of asbestos ... inhaled or ingested, and hence the risk of developing asbestos-related cancer bringing about the injury.⁵⁸

That test therefore requires a claimant first, to lead evidence relating to dose and secondly, to prove that in reasonable medical probability that dose is capable of satisfying “legal” causation. This test not only illustrates the conflation of factual and legal causation into a general notion of proximate cause, but more importantly it highlights the continued importance of probabilistic thinking in relation to causation. Moreover, it plugs directly into Lord Rodger’s formulation in *Fairchild* (at [170]) that it is

essential not just that the defendant’s conduct created a material risk of injury to a class of persons but that it actually created a material risk of injury to the claimant himself ... it follows that the defendant’s conduct must have been capable of causing the claimant’s injury.⁵⁹

This raises the question of what is meant by “reasonable medical probabilities” and “capable of causing injury”. The analysis that follows assumes they are inextricably linked while bearing in mind the distinction between general and specific causation.

What it does not mean is that “a level [of exposure] above that commonly found in the air in buildings and the general outdoor environment” is, without more, capable of causing injury, as Sedley LJ suggested in *Willmore* (at [11]). If that were the meaning of “capable of causing injury” in reasonable medical probability it would be tantamount to saying that any exposure to asbestos beyond background levels is so capable. *Willmore* fails to provide any meaningful analysis beyond uncritical acceptance of the claimant’s expert medical evidence of why any exposure to asbestos should be considered capable of causing mesothelioma. The net result is that defendants will never have a defence in such cases because any non-environmental exposure to asbestos will be, by definition, above background levels. *Willmore* is problematic because, as Behrens and Anderson correctly observe,

the any exposure theory is almost entirely a litigation construct and is not widely published or accepted in the peer-reviewed literature ... [T]here is great debate over related subjects such as whether chrysotile¹⁶⁰ should be considered a cause of mesothelioma, whether short fibres contribute to disease,

⁵⁶ *Fairchild v Glenhaven Funeral Services Ltd* [2003] 1 AC 32 (Lord Bingham at [31]; Lord Hoffmann at [73]; Lord Hutton at [107]; Lord Rodger at [161]-[163]).

⁵⁷ The quotation refers to “asbestos-related products”. In the United States, claims are product liability claims due to the double jeopardy rule that prevents claims against employers in this context.

⁵⁸ Cited with approval by the Texas Supreme Court in *Borg-Warner Corp v Flores* 232 SW 3d 765 (2007). Although *Borg-Warner* is an asbestosis case, in the United States all asbestos-related injury cases are treated the same way while simultaneously adopting the language of risk. See further Stapleton J, “The Two Explosive Proof-of-Causation Doctrine Central to Asbestos Claims” (2009) 74 Brook L Rev 1011.

⁵⁹ It should be noted in this context that the language used here refers to “injury” and not “damage”. It is therefore clear that Lord Rodger is thinking in terms of actual injury rather than the redefined damage that followed in *Barker*.

⁶⁰ A type of asbestos mineral.



or whether occupations like vehicle mechanics are even subject to any asbestos-disease at all, despite long-term, low level exposures. Even the most plaintiff-oriented of these articles, however, do not take the extreme position that there is no minimum.⁶¹

Of even greater concern is Sedley LJ's comment in *Willmore* (at [12]) that "it has to be remembered that where asbestos is involved, a risk of exposure *is* a risk of harm". Not only is that comment illogical,⁶² but it runs counter to Court of Appeal authority in *Brett v University of Reading* [2007] EWCA Civ 88, and is clear evidence of the emotive grip that asbestos toxicity has on the judicial imagination.

Reasonable medical probabilities and epidemiology

How, then, does a claimant prove that exposure was capable of causing disease in reasonable medical probability? The burden remains on the claimant to prove, on the balance of probabilities, by a preponderance of the evidence (that is to say, after assessing all the evidence), the constituent elements of the tort, including the bifurcated causal connection test. As Knutsen puts it:

[A] court applying the increased risk approach is really looking to probabilities of what it thinks happened. Causal evidence is absent, and examining the risks created by the defendant moves the cause-in-fact analysis from one of past facts to one of likely conjecture. A court shifts from ex post causal probabilities of what specifically happened in this particular case to ex ante causal probabilities of what would generally happen in these types of cases. In doing so, the court compensates the plaintiff based on the likelihood that the defendant's negligence caused the plaintiff's injury.⁶³

Looking at what generally happens in relation to the distribution of disease is the role of epidemiology, and epidemiology can provide guidance about whether wrongful conduct is capable, as a matter of reasonable medical probability, of causing harm.

A claimant, his advisers or indeed the judiciary might be lulled into a false sense of security by epidemiological evidence. If a working hypothesis is taken that, say, 70-85% of mesotheliomas (or more) are strongly associated with asbestos exposure, that epidemiological evidence could theoretically be used in support of an argument that asbestos exposure, whether at work, at school or in the general environment, is in reasonable medical probability capable of causing mesothelioma. But epidemiological population studies cannot by themselves determine that a specific victim has sustained asbestos-related mesothelioma. "Judges and lawyers first encountering statistical evidence want to believe that scientific standards are tougher than legal standards."⁶⁴ Epidemiological evidence in fact says very little directly about causation in any specific case: it can show correlations and associations and permit comment on their strengths, but the alternative explanation for the disease under consideration is invariably chance. At best, epidemiology is only evidence of what may be termed general as opposed to specific causation. United States jurisprudence rightly suggests that epidemiology is the "best evidence" of general causation (*Norris v Baxter Healthcare Corp* 397 F 3d 878 at 882 (2005)) but it should still be treated with caution, otherwise every mesothelioma victim could rely on the bare statistic to prove causation. This would simply have the same effect as adopting the "any exposure" theory and leads to a significant risk of overcompensation (in up to 33% of low exposure cases).

Relative risk of two

To counter the risk of overcompensation that would be generated by a near-automatic application of the bare statistic, and in the light of Parliament's reversal of *Barker* on the issue of apportionment

⁶¹ Behrens and Anderson, n 39 at 505.

⁶² Illogical because a risk of being exposed to asbestos is not the same as being exposed to a risk of disease: a person actually needs to be exposed to the substance before there is any risk of disease (unless Sedley LJ simply meant that one risk of being exposed to asbestos is the risk of contracting mesothelioma. If so, his choice of language was unfortunate.)

⁶³ Knutsen, n 23 at 275.

⁶⁴ Barnes DW, "Too Many Probabilities: Statistical Evidence of Tort Causation" (2001) 64 Law and Contemp Probs 191; see further, Coggon D, "Causation and Attribution of Disease in Personal Injury Cases: A Scientific Perspective" (2009) 1 JPI Law 12.



through the *Compensation Act 2006*, the approach advanced by the defendants in *Sienkiewicz*,⁶⁵ adopted by HHJ Hickinbottom (as he then was) in the mesothelioma case of *Jones v Metal Box* (unrep, LTL, 15 October 2007), by Mackay J in the oral contraception litigation, *XYZ v Schering Health Care* [2002] EWHC 1420, and by Smith LJ in the bladder cancer case of *Novartis Grimsby Ltd v Cookson* [2007] EWCA Civ 1261, has much to commend it. That approach has also been adopted extensively in the United States,⁶⁶ and Smith LJ suggested in *Sienkiewicz* (at [23]) that unless the Supreme Court holds otherwise, that approach ought (rightly) to be the default rule in all multiple potential cause cases except (wrongly) in relation to mesothelioma.⁶⁷ As was held in the United States case of *Merrell Dow Pharmaceuticals Inc v Havner* 953 SW 2d 706 at 716 (1997):

[F]or an epidemiological study to be used to properly prove specific causation ... the plaintiff must show that the exposure at issue did not simply slightly raise the hypothetical risk of injury, but in fact more than doubled the risk of harm.⁶⁸

The approach is, therefore, a requirement on the claimant to prove (in the absence of specific evidence aligning the claimant with the majority in any particular population study) that the exposure to a noxious substance more than doubled the background risk: in other words, that the relative risk was greater than two ($RR > 2$). This is, of course, another way of saying that, on the balance of probabilities, the wrongful exposure probably caused the eventuated disease. In the case of *Sienkiewicz*, therefore, as the relative risk was less than two (at 18% or 1.18) it follows that the exposure suffered was not, on the balance of probability, capable of causing mesothelioma in the deceased.⁶⁹ It is worth noting, by way of contrast, that the probabilistic likelihood of Martin Wilsher's blindness being caused by the defendant's negligence was slightly higher, at 20%, yet he lost.

It might, at first blush, seem counterintuitive that an 18% increase in global risk should not fall within the *Fairchild* exception, because on its face, that level of exposure appears to be more than de minimis. But that intuition is a product of the conflation of the threshold conditions in *Fairchild* with its substantive rule. In 2009, Miller predicted that such confusion would become apparent "once claims for increased risk involve a numerical estimate of that risk".⁷⁰

By returning to our earlier example of the two low exposed claimants we can further illustrate the importance of the distinction. Claimant B, who has been exposed by D1 at a proportionately higher level than the total background dose, will be able to prove that that exposure was capable of causing disease. In most cases this would not require engineering evidence as it will be obvious from the claimant's own description of that exposure however imperfectly recalled. On the assumption that the other threshold conditions are satisfied, the substantive *Fairchild* rule is then engaged. But claimant B may nevertheless still fail to satisfy that causal requirement if the court determines that that exposure was de minimis in the context of all exposures. Claimant A, on the other hand, whose tortious exposure did not, relatively speaking, exceed background levels, would not reach the substantive rule

⁶⁵ See below.

⁶⁶ Between 1982 and 1999, 31 courts in the United States referred to the $RR > 2$ standard for proof discussed here. This included a case involving colon cancer caused by asbestos. The frequency of use of that standard has also increased over time. See Carruth RS and Goldstein BD, "Relative Risk Greater Than Two in Proof of Causation in Toxic Tort Litigation" (2001) 41 *Jurimetrics* 196 at 197-199.

⁶⁷ Smith LJ was right to suggest that this is the correct approach in all toxic tort cases. To suggest, however, as Smith LJ did, that the effect of the *Compensation Act 2006* is to make *Fairchild* applicable in all mesothelioma cases is to overlook the fact that that Act was implemented to deal with the second question in *Barker* in relation to apportionment (as Smith LJ did in fact acknowledge at [28] as did Lord Clarke at [56]). The Act does not affect the common law which still requires a claimant to prove her or his case on tortious liability, whatever the causation rules happen to be at any one time. That is the natural and only meaning of the words in s 3(1)(d) which set out as a trigger for the application of the in solidum rule of s 3(2) that "the responsible person is liable in tort". Put simply, the Act does not purport to modify or enlarge the *Fairchild* exception; rather it simply overrules *Barker* in relation to apportionment.

⁶⁸ Quoted in Bernstein DE, "Getting to Causation in Toxic Tort Cases" (2008) 74 *Brook L Rev* 51 at 54.

⁶⁹ For a very brief counter-argument, see Stapleton J, "Factual Causation and Asbestos Cancers" (2010) 126 *LQR* 351. On the basis of the argument presented there, Stapleton appears to endorse the "any exposure" theory in relation to mesothelioma.

⁷⁰ Miller, n 34 at 40.



at all because that claimant has not been able to prove that the level of exposure more than doubled the background risk. The $RR > 2$ approach avoids the arguably absurd outcome where claimant A would win whereas claimant B would lose as well as retaining a meaningful legal role for the concept of causation. It also explains why Maurice Kay J was right in *Rolls Royce Industrial Power (India) Ltd v Cox* [2007] EWCA Civ 1189 in suggesting that there is a level of exposure that would be de minimis even though that exposure exceeded background levels. Of course, the potential outcome for claimant B depends on what is meant by the word “material” within the material increase in risk test.

THE SUBSTANTIVE RULE: WHAT IS MATERIAL?

That leads onto a briefer consideration of the meaning of the words “material” and “de minimis” within the substantive aspect of the *Fairchild* rule. As a term of legal art, “material” loosely means legally relevant. That is, of course, tautological. *Fairchild* itself provides little guidance. This is unsurprising because there was heavy asbestos exposure in the conjoined cases there. Those exposure levels may also explain why the word “material” was at times equated with “significant” (at [42]) and “substantial” (at [47] and [122]) in *Fairchild*. In *Willmore*, Sedley LJ suggested (at [5]) that “what is material in this context is not measured or measurable” but must be more than de minimis, synonyms of which include “more than minimal or trivial or inconsequential”. In the light of the arguments presented here, what is material is measurable because risk is measurable. Even if a claimant’s recollection may not be precise, engineering evidence can provide indicative estimates of likely exposure levels, and such exposure levels can then be compared with background levels via epidemiological evidence in order to arrive at a calculation of relative risk levels – as HHJ Main QC succeeded in doing at first instance in *Sienkiewicz*.⁷¹

The next question is whether that relative risk is material or minimal in terms of its proportionate contribution to total dose. Whether minimal is less than 5% of total dose (Lord Rodger at [90]) or less than 1% is a matter for conjecture. Some United States cases suggest that contributions between the two figures would count as material.⁷² However, it should also be noted that the United States continues to operate proportionate liability along the lines of *Barker*. It is questionable whether the balance of justice favours a 1% contribution to risk as the appropriate cut-off point in mesothelioma cases in circumstances where Parliament has intervened to restore the in solidum liability rule and bearing in mind that exposure “indoors” also means avoiding exposure in the general environment.

POLICY CONSIDERATIONS

It might be objected that the effect of the bifurcated reading of *Fairchild* offered here runs counter to one of the few policy justifications articulated for the exception as expressed by Lords Hoffmann (at [62]) and Rodger (at [155]): that a failure to assist a claimant by not modifying the causation rules would empty the defendant’s duty of content or is required to vindicate the claimant’s rights. That justification has been used in other contexts where the causation rules have been altered in the claimants’ favour: *Chester v Afshar*⁷³ and *Bailey v Ministry of Defence* [2009] 1 WLR 1052 are two pertinent examples. However, it must be recalled that in relation to negligent exposure to asbestos, the courts are dealing with historic liabilities where concerns with deterrence are less pressing. Equally, in *Chester*, the modified causation rules were expressed (at [85]) to be a response to the unusual features of that case.

⁷¹ In *Sienkiewicz v Greif (UK) Ltd* [2010] 2 WLR 951 at [37] Smith LJ even praised his “careful and painstaking” approach to that evidence and would not have found that he had erred in any way had she concluded that this finding was relevant to her conclusions.

⁷² For example, the jury-assessed contributions of 1.2% in *Rutherford v Owens-Illinois* 16 Cal 4th 953; 941 P 2d 1203 (1997) or 1.95% in the California Court of Appeal case of *Jones v John Crane* 35 Cal Rptr 3d 144 (2005) were ultimately found to be culpable exposures. Both victims had suffered heavy exposure elsewhere, so although the proportion with each defendant was low, the proportionate dose would still have been deemed in reasonable medical probability to be capable of causing the disease thereby engaging the substantive rule which, on the facts of those two cases in turn were substantial factors (ie materially increased the risk by their contribution to the total dose) in causation.

⁷³ *Chester v Afshar* [2005] 1 AC 134 (Lord Steyn at [22]-[25], Lord Hope at [85], Lord Walker at [101]).



There is, unfortunately, little that is unusual about asbestos exposure. Of course, emptying the duty of content vis-à-vis claimants also means depriving them of potential compensation where there is a proved or admitted breach of a common law duty. But to justify the imposition of liability in all cases of breach is simply to assert that breach of duty is sufficient for liability and thereby to render the concept of causation redundant. If that is what the Supreme Court wishes to do then it should start by clarifying that this is the intended effect of *Fairchild* and *Barker*. The consequence would be a non-causal liability triggered solely by breach. Furthermore, if the Supreme Court favours the abandonment of the concept of causation altogether in this type of case – which is the inevitable consequence of adopting the “any exposure” theory – it would then be faced with the task of delimiting the boundaries of this exception lest this new form of non-causal liability tort is to become the norm first within toxic torts and then in the tort of negligence generally given the malleability of current threshold conditions. As Lord Hoffmann warned in *Gregg v Scott* [2005] 2 AC 176 at [90], “a wholesale adoption of possible rather than probable causation as the criterion of liability would be so radical a change in our law as to amount to a legislative act”.

CONCLUSIONS

The Supreme Court faces an opportunity to lead the way in the development of the material increase in risk test for causation. In Canada, universal confusion appears to reign about the meaning of a similar test recently formulated in *Resurface Corp v Hanke* [2007] 1 SCR 333⁷⁴ and the *Restatement of Torts (Third)* in the United States⁷⁵ has been met with mixed reviews.⁷⁶ Australia has rejected the *Fairchild* approach out of hand.⁷⁷ In the United States, asbestos litigation is the longest running⁷⁸ mass tort and dwarfs all others and “almost everyone agrees that the end of the asbestos cases is not in sight”.⁷⁹ Events across the Atlantic are a parallel world and have a tendency to be replicated in the United Kingdom, and it is therefore crucial that the nettle is grasped earlier rather than later. There are unavoidable and competing policy concerns at work: the need to redress wrongs, compensation, deterrence, corrective and distributive justice, even ideas of efficiency. But there is also the need for legal coherence. As Giliker notes, “lawyers need a legal framework which enables them to apply the law to cases with a sufficient degree of predictability”,⁸⁰ and Green suggests that, “to be acceptable, the law must be coherent. It must be principled.”⁸¹ To echo Lord Nicholls in *Gregg v Scott* (at [46]), one cannot help but feel that “the present state of the law is crude to an extent bordering on arbitrariness”.⁸² The structured approach to causation in the context of low exposure toxic tort cases offered here is an attempt to redress that instinctive feeling of arbitrariness and to provide hope for a more coherent law of negligence.

⁷⁴ For general commentary see Cheifetz D and Black V, “Material Contribution and Quantum Uncertainty: *Hanke v Resurface Inc*” (2006) 43 Can Bus LJ 155; and for a comparative analysis, Tse MH, “Tests for Factual Causation: Unravelling the Mystery of Material Contribution, Contribution to Risk, the Robust and Pragmatic Approach and the Inference of Causation” (2008) 16 TLJ 249.

⁷⁵ Which seeks to eliminate the “substantial factor” test in non-product liability cases.

⁷⁶ Robertson DW, “Causation in the Restatement (Third) of Torts: Three Arguable Mistakes” (2009) 44 Wake Forest Rev 1007; Rue JD, “Returning to the Roots of the Bramble Bush: The ‘But For’ Test Regains Primacy in Causal Analysis in the American Law Institute’s Proposed Restatement (Third) of Torts” (2003) 71 Fordham L Rev 2679; “Symposium: The John W Wade Conference on the Third Restatement on Torts” (2001) 54(3) Vanderbilt LR 639.

⁷⁷ See eg *Amaca Pty Ltd v Hannell* (2007) 34 WAR 109; *Amaca Pty Ltd v Moss* [2007] WASCA 162.

⁷⁸ Behrens MA, “What’s New in Asbestos Litigation?” (2008) 28 Rev Litig 501.

⁷⁹ Hensler DR and Paterson MA, “Understanding Mass Personal Injury Litigation: A Socio-legal Analysis” (1993) Brook L Rev 961 at 1004, quoted in Sanders J, Green MD and Powers Jr WC, “The Insubstantiality of the ‘Substantial Factor’ Test for Causation” (2008) 73 Mo L Rev 399 at 401.

⁸⁰ Giliker P, “Book Review: Rediscovering the Law of Negligence” (2008) 28(1) PN 62.

⁸¹ Green G, “Coherence of Medical Negligence Cases: A Game of Doctors and Purses” (2006) 14(1) Med LR 1.

⁸² See further Lee J, “Causation in Negligence: Another Fine Mess” (2008) 24(3) PN 194; Khoury L, “Causation and Risk in the Highest Courts of Canada, England and France” (2008) 124 LQR 103; Hogg MA, “Re-establishing Orthodoxy in the Realm of Causation” (2007) 11(1) Edin LR 8.

