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Proportionality in Tort Law

A Comparison between Dutch and English Laws with Regard to the Problem of Multiple Causation in Asbestos-Related Cases

FARO SOBCZAK*

Abstract: The problem of compensating a growing number of people who have contracted lung cancer, as a potential consequence of exposure to asbestos, is taxing many legal systems. In most legal systems, it is – in general – up to the claimant to prove all the elements of the liability claim to establish the liability of the tortfeasor. Proving the causation requirement is extremely difficult in asbestos-related cases in which uncertainty arises as to the cause of the damage (multiple causation). This article examines how Dutch and English laws have approached this problem of compensating asbestos victims. Under Dutch law, having previously operated using an ‘all or nothing’ approach, the Dutch Supreme Court recently, in 2006, applied the ‘proportional liability theory’ for the first time to solve such cases. This application of the proportional liability theory has also drawbacks but still leads to the most reasonable results in asbestos-related cases. English law, on the other hand, uses the principle of contributory negligence to award partial compensation. As opposed to English law, where only the employee’s smoking history is taken into account to reduce the total amount of compensation, Dutch law does also take into account other factors to assess the probability that asbestos has caused the claimant’s lung cancer. At this moment, we have to recognize and realize that there is simply no perfect solution available to solve such complex cases due to the lack of medical science.

Résumé : De nombreux systèmes légaux sont confrontés au problème de l’indemnisation d’un nombre croissant de personnes ayant contracté un cancer du poumon, comme conséquence probable d’une exposition à l’amiante. Dans la plupart des systèmes de droit, c’est – en général – au plaignant de prouver tous les éléments de l’action en responsabilité pour établir la responsabilité de l’auteur du dommage. La preuve du lien de causalité est extrêmement difficile à établir dans les cas relatifs à l’amiante dans la mesure où il y a beaucoup d’incertitude quant à la cause du dommage (causes multiples). Le présent article examine l’approche en droit néerlandais et en droit anglais de ce problème d’indemnisation des victimes de l’amiante. Le droit néerlandais a d’abord choisi une approche du « tout ou rien », mais la Cour de Cassation néerlandaise a récemment, en 2006, appliqué pour la première fois la théorie de la responsabilité proportionnelle pour résoudre de tels cas. Si l’application de la théorie de la responsabilité proportionnelle a aussi des inconvénients, elle conduit toutefois aux résultats les plus raisonnables dans les cas relatifs à l’amiante. A l’opposé du droit anglais, où les antécédents de l’employé, fumeur, sont pris en compte pour réduire le montant total de l’indemnisation, le droit néerlandais prend aussi en compte d’autres facteurs pour évaluer la probabilité que l’amiante a bien été la cause du cancer du poumon du

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plaignant. A l'heure actuelle, nous devons bien reconnaître et admettre qu'il n'existe pas de solution parfaite permettant de résoudre des cas aussi complexes, ceci étant dû aux déficiences de la science médicale.

Zusammenfassung: Das Problem der Entschädigung einer wachsenden Anzahl von Menschen, die aufgrund einer Asbests an Lungenkrebs erkrankt sind, beschäftigt viele Rechtssysteme. In den meisten Rechtssystemen ist – grundsätzlich – der Kläger verpflichtet, alle Elemente des Haftungsanspruchs zu beweisen, um die Haftung des Schädigers zu begründen. Der Beweis der Kausalität ist im Rahmen der Asbestfälle, in denen in Bezug auf die Ursache des Schadens (kumulative Kausalität) Unsicherheiten vorliegen, außerordentlich schwierig. Dieser Beitrag untersucht, wie das niederländische und englische Recht das Problem der Entschädigung von Asbestopfern lösen. Nach niederländischem Recht, in dem bisher das Prinzip „Alles oder Nichts“ Anwendung gefunden hat, hat der niederländische Hoge Raad in 2006 zum ersten Mal die „proportionale Haftungstheorie“ zur Lösung dieser Fälle angewandt. Die Anwendung der proportionalen Haftungstheorie hatte zwar auch Rückschläge erlitten, führt aber immer noch in Asbestfällen zu angemessenen Ergebnissen. Dagegen verwendet das englische Recht den Grundsatz des Mitverschuldens (contributory negligence) zur Gewährung einer teilweisen Entschädigung. Im Gegensatz zum englischen Recht, wo lediglich das Raucherverhalten des Arbeitnehmers in der Vergangenheit zur Verringerung des gesamten Schadensersatzes beachtet wird, beachtet das niederländische Recht auch andere Faktoren bei der Bestimmung der Möglichkeit, dass Asbest den Lungenkrebs des Klägers verursacht hat. Zu diesem Zeitpunkt müssen wir uns eingestehen, dass es aufgrund einer mangelnden medizinischen Untersuchung keine perfekte Lösung dieser komplexen Fälle gibt.

1. Introduction

Between 1964 and 1979, Mr Karamus was negligently exposed to asbestos in the course of his employment. In 1997, Mr Karamus developed lung cancer and he died from the consequences of that disease in 2000. His lung cancer was a potential consequence of exposure to asbestos. However, it was also possible that the lung cancer was caused by his twenty-eight years of heavy smoking, his genetic predisposition, external causes, or simply by aging. These were the major facts in the Dutch *Nefalit and Karamus*¹ case, and they are more or less comparable to the facts in the English *Badger v. Ministry of Defence*² case. In *Badger*, the claimant's husband had been exposed to asbestos while working for the defendant (Ministry of Defence) as a boilermaker. Mr Badger was a heavy smoker and he developed asbestosis first before he was diagnosed with lung cancer, which could have been caused by asbestos exposure.³ Mr Badger died from the consequences of lung cancer

¹ HR 31 maart 2006, RvdW 2006, 328 (*Nefalit/Karamus*).

² *Badger v. Ministry of Defence* [2005] EWHC 2941 (QB) [2006] 3 ALL ER 173.

³ Keep in mind that the causal link between asbestosis and the development of lung cancer is highly debated in medical literature. In *Shortell v. Bical Construction Ltd* [2008], QBD Liverpool (16 May 2008), John Joseph Shortell died of lung cancer after he had been exposed to asbestos in the course of his employment. In *Shortell*, the employee did not develop asbestosis first before he was diagnosed with lung cancer. The court established causation on the basis of expert evidence and applied the rules set out in the *Badger* case to determine the deceased's degree of contributory negligence. A reduction had to be made for the deceased's contributory negligence and was assessed at 15%.

in 2002 at the age of 63. Both cases posed a very difficult question for Dutch and English Tort Laws, which resonates for other jurisdictions: is it fair to deny all compensations or to award full compensation (through an ‘all or nothing’ scheme) when the actual cause of the lung cancer cannot be specifically determined?

The problem of compensating a growing number of people who have contracted lung cancer that could have been asbestos related is taxing many legal systems. In the Netherlands and England, the number of victims diagnosed with asbestos-related injuries will increase dramatically in the coming fifteen years. In England, the number of mesothelioma victims will reach a peak of 2,540 deaths per year in about 2015, and it is predicted that in total 90,000 people in the United Kingdom will die as a consequence of asbestos exposure.⁴ In the Netherlands, the number of mesothelioma sufferers will reach a peak of 700 mesothelioma cases in about 2018.⁵ In both jurisdictions, the highest number of claims can be expected in the coming fifteen years.

The Dutch legal system is, like many European legal systems, organized as a civil law system operating through the Dutch Civil Code (BW). Some parts of this Civil Code have recently been renewed.⁶ In order to establish the liability of another, and thereby to obtain compensation, asbestos victims in Dutch law must prove that they suffered damage through exposure to asbestos, that the exposure was wrongful, and that the exposure was attributable to the tortfeasor. The claimant must prove a causal link between, on the one hand, the wrongful conduct of the tortfeasor, and on the other hand, the damage to the victim.⁷ Under English law, the Tort of negligence requires the claimant to prove that the tortfeasor has breached his duty of care to the claimant, that he has suffered damage, and that there is causation between the breach of the duty of care and the damage suffered.

This article focuses solely on the causation requirement in both jurisdictions, which is, for victims of asbestos-related diseases, considered to be the most problematic to prove. Such a personal injury claim is characterized by the fact that multiple factors are present, any one of which could have caused or triggered the specific disease (lung cancer), but it is impossible to tell which one has actually caused the cancer in the specific claimant’s case.⁸ In such cases, one can speak of

⁴ <www.irwinmitchell.com/search/pages/newsviewer.aspx?f=item145.aspx>.

⁵ A. BURDORF ET AL., ‘Toenemende incidentie van mesothelioom in de toekomst door beroepsmatige blootstelling aan asbest in het verleden’, *Nederlands Tijdschrift voor Geneeskunde*, no. 141 (1997): 1093-1098.

⁶ In the year 1992, Books 3, 5, and 6 and the first part of Book 7 of the Dutch Civil Code came into operation.

⁷ keep in mind that the conditions to establish liability are less demanding in employees’ liability cases.

⁸ Here I distinguish this problem from the situation where there is one cause and multiple possible tortfeasors for that one cause and also the hybrid where there are multiple causes and multiple tortfeasors. The issue of multiple tortfeasors from a single cause is increasingly resolved in different jurisdictions, whereas the problem of multiple possible causes is much more contested; once the isolated multiple causation problem is resolved, the situation of both multiple possible tortfeasors and multiple possible causes can be resolved by bringing the two solutions to bear in the same case.

causal uncertainty, particularly uncertainty that arises as to the cause of the damage. Many examples exist in Tort law of situations where there is uncertainty concerning the causal relationship between the tortious act and the damage.⁹ Further, causal uncertainty, as such, is not only an extremely problematic issue for Dutch and English laws, yet all legal systems have to find ways to deal with this problem.

Having previously operated using an ‘all or nothing’ approach, the Dutch Supreme Court (Hoge Raad) recently, in Mr Karamus’ case in 2006, applied the proportional liability theory. Applying this theory, the judge did not simply award or reject the total amount of damages on the basis that either there was proof of causation or there was no proof because of the causal uncertainty, rather he awarded damages in proportion to the probability of causality. English law, on the other hand, established causation on the basis of traditional principles and subsequently applied the principle of contributory negligence to reduce the amount of compensation in *Badger*. The total amount of compensation was reduced in line with the likelihood that the claimant’s lung cancer had been caused by his smoking history. In *Badger*, the court did only take into account the wrongful exposure to asbestos and Mr Badger’s smoking history to determine the amount of compensation. As opposed to English law, Dutch law takes into account all factors that could have caused the claimant’s lung cancer, such as the claimant’s genetic predisposition, age, and external causes, in order to determine the probability that the exposure to asbestos has caused the claimant’s lung cancer.

The application of the proportional liability theory in Dutch law was controversial and the question remains: should the proportional liability theory be applied in preference to the traditional ‘all or nothing’ solution in asbestos-related cases concerned with the problem of multiple causation? I will argue, in line with most Dutch legal scholars, that the application of the proportional liability theory is the most reasonable solution to settle such claims and to assign compensation. Micro (individual) figures are not available in such cases since it is impossible to determine the cause of the injury (lung cancer) on a micro level. For that reason, macro (population level) figures are used in individual cases to determine the probability that asbestos caused the lung cancer. The idea is that some information provides more accuracy than no information at all. Awarding proportional compensation on the basis of macro figures provides better results than the claimant either being fully compensated or not being compensated at all.

This article examines the liability for asbestos-related lung cancer in Dutch and English laws. I start the discussion by considering the medical issues in the asbestos-related cases in question. Then, I will discuss the requirement of causation in Tort law and the problem of multiple causation, looking at the approaches in Dutch and English laws. Subsequently, I will consider rules concerning the proof of causation and the traditional principle of ‘all or nothing’ recovery. Then, I will

⁹ M.G. FAURE, ‘Causal Uncertainty, Joint and Several Liability and Insurance’, in *Liber Amicorum Pierre Widmer*, ed. H. KOZIOL & J. SPIER (Wenen: Springer, 2003), 79.

discuss the proportional liability theory as a Dutch solution for causal uncertainty, applying proportional liability in case of lung cancer that could have been asbestos related, and the assessment of the probability of causation. Subsequently, I will discuss the English approach of using the principle of contributory negligence to award partial compensation in such multiple causation cases. Finally, a comparison will be made between the two jurisdictions on the issue of multiple causation in asbestos-related cases.

2. Asbestos-Related Lung Cancer

It is now widely accepted that exposure to asbestos can cause lung cancer.¹⁰ Lung cancer is actual damage under Dutch law and is seen as actionable damage under English law:¹¹ there is now no question of whether lung cancer contracted unequivocally by another's negligence causes damages for legal purposes. The main problem lies in the causal uncertainty between the negligent¹² exposure to asbestos and the development of lung cancer, that is, where there is a negligent exposure to asbestos, but that is only one potential cause of the lung cancer in the claimant. A legal and medical distinction should be made between, on the one hand, situations in which uncertainty exists about the specific tortfeasor (i.e., because there are multiple possible tortfeasors for the single, undisputed cause of the lung cancer) and, on the other hand, situations in which uncertainty exists as to the cause of the damage. Before discussing the legal problems, it is necessary to understand something of the medical issues involved in such cases.

Lung cancer has a number of forms. Presently, medical science can isolate and name one particular form, Mesothelioma, but other forms are not distinguishable at this time.¹³ Asbestos is the only known cause of mesothelioma, and therefore, liability in mesothelioma cases generally raises no specific problems of proof of the causal relationship between an established exposure to asbestos and the mesothelioma.¹⁴ In such cases, any search for an alternative cause of mesothelioma

¹⁰ See for a medical acceptance, M.H. BEERS (ed.), *The Merck Manual of Medical Information* (Merck Research Laboratories, 2003), 297. See for a legal acceptance in Dutch and English case laws, HR 31 maart 2006, RvdW 2006, 328 (*Nefalit/Karamus*); *Fairchild v. Glenhaven Funeral Services Ltd* [2002] UKHL 22.

¹¹ F. SOB CZAK, D.M.R. TOWNEND & G.E. VAN MAANEN, 'Dutch Case Note', *European Review of Private Law*, no. 2 (2009): 207-217. In case the victim only contracted pleural plaques, the 'damage question' is far more difficult to answer. See e.g., the English case: *Johnston v. NEI International Combustion Limited* [2007] UKHL 39.

¹² Here I use 'negligent' in the narrow sense, i.e., it is accepted that the employee was exposed to asbestos by the employer and that, but for the proof of the other elements in the broader understanding of negligence, the element of 'wrongfulness' of the exposure was not in question.

¹³ Except for the distinction in cells.

¹⁴ H.E.J. SINNINGHE DAMSTE, S. SIESLING & A. BURDORF, 'Milieublootstelling aan asbest in de regio Goor vastgesteld als oorzaak van maligne pleuramesotheliom bij vrouwen', *Nederlands Tijdschrift voor Geneeskunde*, no. 151 (2007): 2453-2459.

in a person occupationally exposed to asbestos is unnecessary.¹⁵ The latency period, from the first exposure to asbestos until the manifestation of mesothelioma,¹⁶ varies from twenty to fifty years. Whereas in case of mesothelioma there is no uncertainty as to the cause of the damage, uncertainty could arise in such a case with regard to the specific tortfeasor. If the claimant has been exposed to asbestos while working for several employers all exposing him or her to asbestos, it is then uncertain which particular employer caused the damage to the claimant.¹⁷ Medical science is able to prove that mesothelioma could originate by the inhalation of one asbestos fibre, a few asbestos fibres, or many asbestos fibres. This implies that a minimal exposure to asbestos can be enough. In fact, no exposure threshold is indicated here.¹⁸ Unfortunately, medical science cannot tell us the exact moment the person concerned inhaled the fatal asbestos fibre that led to the forming of mesothelioma, and therefore, a mesothelioma victim who has been exposed to asbestos by a number of different employers cannot prove which employer caused his illness: 'Technically it is impossible to establish where and when the patient inhaled the fatal asbestos fibre.'¹⁹ However, both Dutch and English case laws have established solutions to this problem and it will not be discussed further here.²⁰

Mesothelioma cases, however, differ strongly from cases in which an employee contracted one of the other non-mesothelioma forms of lung cancer where asbestos exposure is only one of a number of possible causes of the damage.²¹ Such cases are concerned with the problem of multiple causation. Histopathology cannot determine the cause of such disease in a specific situation; many factors, which might have played a causal role, complicate the issue. For that reason, the question of whether a lung tumour is attributable to exposure to asbestos is far more difficult to answer when compared to cases where employees have developed mesothelioma. Further, and unlike mesothelioma,²² a certain dose or level of exposure may be required before that dose can be taken to have contributed to the increased risk of developing lung cancer. For that reason, most non-occupationally exposed people are at extremely low risk of developing non-mesothelioma lung cancer, which is potentially asbestos-related.²³

¹⁵ C. MILLER, 'Judicial Approaches to Contested Causation: Fairchild v. Glenhaven Funeral Services in Context', *Law, Probability & Risk*, no. 2 (2002): 119-139.

¹⁶ Mesothelioma that could be clinical diagnosed.

¹⁷ For example, CRVB 21 juni 2007, no. 04/4724 AW, LJM BA8436.

¹⁸ Gezondheidsraad, *Protocollen asbestziekten: maligne mesotheliom*, 16. Rijswijk: Gezondheidsraad, 1998; publicatienr. 1998/10.

¹⁹ C.C. VAN DAM, *European Tort Law* (Oxford University Press, 2000), 146.

²⁰ See for a Dutch mesothelioma case, CRvB 21 juni 2007, no. 04/4724 AW, LJM BA8436. See for an English mesothelioma case, *Fairchild v. Glenhaven Funeral Services Ltd*, [2002] UKHL 22.

²¹ For example, the Dutch case: *Nefalit/Karamus* (HR 31 maart 2006, RvdW 2006, 328); or the English case: *Badger v. Ministry of Defence* [2005] EWHC 2941 (QB) [2006] 3 ALL ER 173.

²² Where only a minimal exposure to asbestos is required.

²³ BEERS, 297.

3. The Requirement of Causation in Tort Law and the Problem of Multiple Causation

One of the requirements to establish liability in Dutch and English laws is the existence of a causal link between, on the one hand, the wrongful conduct of the tortfeasor and, on the other hand, the damage to the victim.²⁴ In both jurisdictions, causation is, as elsewhere, a fundamental requirement for liability, which makes causation an extremely important element in establishing liability. Proving causation is, in most personal injuries claims, relatively straightforward. Difficulties mainly arise in cases concerned with the problem of multiple causation, such as cases involving occupational diseases or medical negligence.²⁵

Two aspects of causation can be distinguished in Dutch and English laws: the first is establishing causation (factual causation), the second is to determine the scope of the damage (legal causation). In the first stage of causation, a causal link has to be established.²⁶ In Dutch law, this causation element is captured in the formulation of Articles 6:74 BW²⁷ ‘therefrom’, 6:162 BW²⁸ ‘as a consequence thereof’, and 7:658 BW²⁹ ‘in the course of the employment’. The second stage can be found in Article 6:98 BW.³⁰ Under English law, causation is one of the elements of the claim in negligence. In the second stage, several instruments can be applied in order to limit the consequences for which the defendant has to answer.³¹

The principle of *conditio sine qua non*, the ‘but-for’ test in Anglo-American legal systems, is applied, both in the Netherlands and England, to establish factual causation: that is, ‘a condition without which the damage would not have

²⁴ Dutch law: Art. 6:162(1) BW: ‘A person who commits an unlawful act toward another which can be imputed to him, must repair the damage which the other person suffers *as a consequence thereof*’ (emphasis added). English law: the Tort of negligence requires a causal link between the breach of the duty of care and the damage that the victim suffered.

²⁵ R.M.P.P. CASCÃO, *Prevention and Compensation of Treatment Injury: A Roadmap for Reform* (Boom Juridische Uitgevers, 2005), 45: ‘It is extremely difficult to establish the link of causation between medical treatment and the injury sustained by the patient. The precise process of injuries or diseases as well as the precise consequences of medical techniques is often unknown. For that reason it has proved to be extremely difficult to establish whether the doctor’s fault has caused the damage and to which extent.’

²⁶ This first stage usually is referred to as: ‘factual causation’, ‘*conditio sine qua non*’, ‘but-for’, or ‘cause in fact’.

²⁷ Article 6:74 BW (contractual liability): ‘Every failure in the performance of an obligation obliges the debtor to repair the damage which the creditor suffers *therefrom*, unless the failure cannot be imputed to the debtor’ (emphasis added).

²⁸ See n. 23.

²⁹ Employers’ liability.

³⁰ Article 6:98 BW: ‘Reparation can only be claimed for damage which is related to the event giving rise to the liability of the debtor in such a fashion that the damage, also taking into account its nature and that of the liability, can be imputed to the debtor as a result of this event.’

³¹ The court will examine the reasonable foreseeability of the damage, the probability that the damage would occur, and the directness of the consequential damage.

occurred'.³² To determine whether *conditio sine qua non* could be established, the relevant question to answer is: would the damage also have occurred if the tortfeasor had not acted in the way he did? If the damage would have occurred without the intervention of the tortfeasor, then the causal connection is not established, which means that - in general³³ - no liability will arise. If the tortfeasor's intervention is a necessary factor for the damage to occur, then the requirement of causation is satisfied and liability can be established.

Like most commentators, I agree that the *conditio sine qua non* test is a workable approach to establish causation in most situations. However, the strict application of this test is undesirable in asbestos-related cases concerned with the problem of multiple causation. In situations where multiple possible causes of the damage are present and uncertainty exists about the situation that would have existed without the tortious event (a hypothetical situation), the application of this test will produce a lot of events or facts that could make proving causation extremely difficult and sometimes even impossible. Medical science simply cannot provide absolute certainty in lung cancer cases. In such complex cases, science only indicates that the exposure to asbestos was a 'potential' cause of the damage but cannot determine that the wrongful exposure to asbestos actually has caused the lung cancer in the specific (individual) case.

If judges apply the *conditio sine qua non* test in situations like this, it is most likely that the claim for compensation will be dismissed because the claimant will almost certainly be unable to prove factual causation. This outcome would be unfair because in the majority of the cases it has been established that the defendant had been at fault and that there is a real probability that this fault has caused the damage. This outcome would also be contrary to common sense: 'Tort law is and should be about compensating those who are wrongfully injured.'³⁴ A strict application of the *conditio sine qua non* test thus produces injustice in such cases.

In Dutch and English laws, the so-called 'second stage' of causation or 'legal causation' comes into play after the required *conditio sine qua non* test has been met.³⁵ Article 6:98 BW reads: 'Reparation can only be claimed for damage which is related to the event giving rise to the liability of the debtor in such a fashion that the damage, also taking into account its nature and that of the liability, can be imputed to the debtor as a result of this event.' In both jurisdictions, this second stage of causation is concerned with the problem of remoteness of damages and the question

³² Article 3:101 Principles of European Tort Law (PETL) gives the following definition: 'An activity or conduct is a cause of the victim's damage if, in the absence of the activity, the damage would not have occurred.'

³³ I choose the term 'in general' because liability can, in special circumstances, also be established in cases where *conditio sine qua non* has not been established.

³⁴ *Fairchild v. Glenhaven Funeral Services Ltd* [2002] UKHL 22, para. 11 (Lord Bingham).

³⁵ HR 9 Apr. 2004, NJ 2004, 308.

of whether or not the tortfeasor is actually obliged to pay for all the damages suffered by the claimant. Dutch legal scholars³⁶ have inferred some additional rules of causation from case law. These rules of thumb, which are generally accepted, are in accordance with Article 3:201 PETL³⁷ and give some guidance when deciding whether in a specific situation a causal link could be established or not.³⁸ Expanding the scope of reparation in personal injury cases also seems to be in accordance with Article 2:102 PETL.³⁹ Legal causation will not be discussed further in this article because the focus is on asbestos-related cases in which the claimant is unable to prove factual causation due to the problem of multiple causation.

4. The Proof of Causation

Under Dutch and English laws, the claimant has to prove all the elements of the liability claim. This means that the claimant also has to prove the requirement of causation in order to establish the liability of the tortfeasor. Both jurisdictions, as most other legal systems, do not demand absolute (100%) certainty between conduct and damage to establish causation. Dutch law requires the claimant to prove causation to a reasonable degree of certainty. When this criterion is satisfied, however, is unclear since there is no percentage threshold given by the Dutch legislator or Supreme Court to indicate reasonableness. This reasonable degree of certainty approach differs from the English approach. English law applies ‘the balance of probabilities approach’.⁴⁰ Under this approach, an English claimant

³⁶ C.J.H. BRUNNER, ‘Causaliteit en toerekening van schade’, VR (1981): 201-217, 233-236.

³⁷ Article 3:201 PETL:

Where an activity is a cause within the meaning of Section 1 of this chapter, whether and to what extent damage may be attributed to a person depends on factors such as:

- a) the foreseeability of the damage to a reasonable person at the time of the activity, taking into account in particular the closeness in time or space between the damaging activity and its consequence, or the magnitude of the damage in relation to the normal consequences of such an activity;
- b) the nature and the value of the protected interest (Article 2:102);
- c) the basis of liability (Article 1:101);
- d) the extent of the ordinary risks of life; and
- e) the protective purpose of the rule that has been violated.

³⁸ T. HARTLIEF, ‘Schadevergoedingsrecht’, in *Verbintenissen uit de wet en schadevergoeding*, ed. J. SPIER, T. HARTLIEF, G.E. VAN MAANEN & R.D. VRIESENDORP (Deventer: Kluwer, 2003), no. 218.

³⁹ Article 2:102 PETL:

- (1): The scope of protection of an interest depends on its nature: the higher its value, the precision of its definition and its obviousness, the more extensive is its protection.
- (2): Life, bodily or mental integrity, human dignity and liberty enjoy the most extensive protection.

⁴⁰ This should be compared with the burden of proof in English criminal law, ‘beyond reasonable doubt’. In the civil standard of proof, the balance of probabilities seeks to resolve a problem between the two parties, seeks to find the more believable story (hence, the metaphor of the

who is able to prove that there is, metaphorically, a chance greater than 50% that the damage happened because of the breach of duty sufficiently proves causation between conduct and damage on the balance of probabilities. It is about saying that, on balance, one side is more believable than the other. To that extent ‘reasonableness’ is common to both legal systems, but the English system gives a way of interpreting it.

It goes without saying that the inability to prove causation will be frustrating for the claimant since he is, in general, the one who bears the consequences of the uncertainty in such cases, which eventually may lead to a non-successful liability claim. This also implies that asbestos victims are, with regard to the burden of proof, in an unfavourable position as opposed to their employer(s).⁴¹ This leaves the question of whether the strict rules on proof of causation should be modified in order to address the gaps in scientific knowledge regarding the causal link between asbestos exposure and lung cancer. Procedural rules, such as the possibility to reverse the burden of proof with regard to the requirement of causation or *res ipsa loquitur*, will not be discussed further in this article because it rather shifts the problem of uncertain causation to the other party than solve the problem.

5. The Traditional Principle of All or Nothing Recovery

Applying the *conditio sine qua non* test leads to a traditional ‘all or nothing’ recovery. When causation is accepted by the court, it will grant full damages. However, in cases in which the claimant is unable to prove causation he leaves empty-handed.⁴² In most cases, the application of the all or nothing approach is seen as a just and justifiable approach to settle the case. The question posed in this article is whether the application of this traditional approach is also desirable in asbestos-related cases concerned with the problem of multiple causation.

When the all or nothing approach is examined from a compensation point of view, which is arguably the most important goal of Tort law,⁴³ this traditional approach is unsatisfactory in such cases. When there is a considerable chance that the negligence of an employer has caused damage to his employee, it would be undesirable for the victim to leave empty-handed because he is unable to prove *conditio sine qua non* to a reasonable degree of certainty or on the balance of probabilities. Conversely, it would also be undesirable for the employer to pay full

51%+ believability of the one story against the other). In criminal law, the issue is not to find the winner between the competing parties but to measure the conduct of the defendant against the acceptable standards of behaviour in the particular jurisdiction.

⁴¹ In the majority of the cases, asbestos victims have been exposed to asbestos in the course of their employments.

⁴² A.J. AKKERMANS, *Proportionele aansprakelijkheid bij onzeker causaal verband: een rechtsvergelijkend onderzoek naar de wenselijkheid, grondslagen en afgrenzingen van aansprakelijkheid naar rato van de veroorzakingswaarschijnlijkheid* (Deventer: Tjeenk Willink, 1997), 1.

⁴³ *Ibid.*, 213; J.F. CLERK & W.H.B. LINDSELL, *Clerk & Lindsell on Torts* (London: Sweet & Maxwell, 2006), 7.

damages if there is only a proportional, or on balance better, chance that his wrongful conduct has caused damage to the claimant. In situations like this, one could without doubt conclude that the principle of all or nothing recovery leads to over- or under-compensation.⁴⁴ One percent can make the difference between being fully compensated and not being compensated at all.⁴⁵

A relevant issue for Dutch Tort law is that the outcome of the case fully depends on the question of whether a reasonable degree of certainty could successfully be established or not. However, as said, in Dutch law, as opposed to English law, it is unclear when this point is reached (50, 60, or 70%?). In such cases, awarding damages on the basis of the all or nothing approach is arbitrary. There will always be cases falling just above or just below the turning point. I agree with Dutch legal scholars, such as Akkermans, that: the closer the estimated percentage comes to the turning point, the less reasonable the outcome of the all or nothing approach will be.⁴⁶ The application of the all or nothing approach is not desirable, in terms of fairness, in cases where evidence shows a probability slightly above or below 50%.

Dutch legal scholars, such as Akkermans,⁴⁷ Frenk,⁴⁸ and Faure⁴⁹ have proposed to reduce the negative side effects of the traditional all or nothing approach. Their solution is what has become known as the ‘proportional liability theory’. Applying this theory, the judge does not simply award or reject the total amount of damages, rather he awards damages in proportion to the probability of causality: ‘Liability in proportion to the probability of the cause’.⁵⁰

6. Proportional Liability: A Dutch Solution for Multiple Causation

In most claims in Tort, the assessment of causation results in a yes or no answer. However, in some cases, the assessment of causation is a question of probability and percentages.⁵¹ The proportional liability theory is based on the idea of compensating damage in proportion to the probability of causality. This is a relatively new idea and the question remains whether this theory should be applied in preference to the traditional all or nothing solution in asbestos-related cases.

In asbestos-related cases concerned with the problem of multiple causation, it is recognized that the proportional liability theory has some advantages over the all or nothing solution. Applying proportional liability, there is less over- and

⁴⁴ J.S. KORTMANN, ‘Karamus/Nefalit: Proportionele aansprakelijkheid?’, *Nederlands Juristenblad*, no. 26 (2006): 1405.

⁴⁵ C.H. VAN DIJK, ‘Proportionele aansprakelijkheid bij medische fouten vindt navolging’, *Aansprakelijkheid & Verzekering*, no. 2 (1999): 37.

⁴⁶ AKKERMANS, 92.

⁴⁷ *Ibid.*

⁴⁸ N. FRENK, ‘Toerekening naar kansbepaling’, *Nederlands Juristenblad*, no. 13 (1995): 482-491.

⁴⁹ M. FAURE, (*G)een schijn van kans* (Antwerpen: Oratie UM, 1993).

⁵⁰ ‘Aansprakelijkheid naar rato van de veroorzakingswaarschijnlijkheid’: AKKERMANS, 3.

⁵¹ W. VAN GERVEN, P. LAROUCHE & J. LEVER, *Cases, Materials and Text on National, Supranational, and International Tort Law* (Oxford: Hart Publishing, 2000), 428/2.

under-compensation, there is less over- and under-deterrence, and there will be fewer arbitrary judgments. Unlike the all or nothing approach, the proportional liability approach does not use a turning point lying at or close to 50% (reasonable degree of certainty). For that reason, most Dutch legal scholars, including those who work in the field of law and economics, prefer a proportional liability approach instead of an all or nothing approach to compensate claimants in such cases.⁵²

What drawbacks can be expected if the proportional liability theory is applied in asbestos-related cases? Does the application of this theory, for example, also lead to either over- or under-compensation? The answer is yes. On a micro level, asbestos victims will always be over- or under-compensated. Asbestos victims will be under-compensated if the wrongful asbestos exposure caused the lung cancer, as other possibilities are taken into the equation reducing the overall compensation, and victims will be over-compensated if the negligent asbestos exposure did not cause the lung cancer.⁵³ As said previously, it is impossible to establish the precise probability of causation in a specific (individual) case because micro figures are not available in such cases. A small number of legal scholars have even argued that asbestos victims should receive no compensation at all (0%) or should obtain compensation for the entire loss (100%).⁵⁴ In their view, the negligent exposure to asbestos caused or did not cause the lung cancer; a woman is pregnant or not.⁵⁵ Seen from this perspective, applying the all or nothing approach seems to be very reasonable. Should this traditional compensation system then be changed?

Applying proportional liability on the basis of macro figures still leads to the most reasonable results in an environment of uncertainty.⁵⁶ It is an uncomfortable compromise that Professor Spier captures well, describing proportional liability is 'the least unreasonable' approach because the proportional liability theory takes all circumstances into account, including those on the side of the tortfeasor.⁵⁷ The over- and under-compensation also applies when using macro figures, but some form of proportional compensation, rather than an all or nothing approach, is again arguably the most appropriate compromise, as it confirms fundamental responsibilities of the tortfeasor without assuming a position akin to strict liability for any employers requiring their employees to work with asbestos (or other dangerous

⁵² See R. YOUNG, M. FAURE & P. FENN, 'Causality and Causation in Tort Law', *International Review of Law and Economics*, no. 24 (2004): 517.

⁵³ L.T. VISSCHER, 'Schadevergoedingsrecht', in *De economische analyse van het recht*, ed. W.C.T. WETERINGS (Den Haag: BJu, 2007), 101-102.

⁵⁴ I. GIESEN & T.F.E. Tjong Tjin Tai, *Proportionele tendensen in het verbintenissenrecht* (Deventer: Kluwer, 2008), 64.

⁵⁵ G.E. VAN MAANEN, 'Proportionele schadevergoeding bij asbestclaims. De zaak Schaijer/De Schelde', in *Proportionele aansprakelijkheid*, ed. A.J. AKKERMANS, M. FAURE & T. HARTLIEF (Den Haag: Boom Juridische Uitgevers, 2000), 43.

⁵⁶ AKKERMANS, 302, 303.

⁵⁷ J. SPIER, *Sluipende schade* (Deventer: Kluwer, 1990), 9.

situations). Dutch scholars, such as Akkermans, underline this, suggesting that not using macro figures in individual cases is even more arbitrary.

In line with Akkermans, I can conclude that some information indeed provides more accuracy than no information at all.⁵⁸ However, we must keep in mind that even the option to award damages in proportion to the probability of causality is not a superb solution. Micro figures are not available in asbestos-related cases, which imply that all decisions, including the proportional ones, remain more or less arbitrary as the assessment of causation is solely based on macro figures.

7. Applying Proportional Liability in Cases of Lung Cancer that Could Have Been Asbestos Related

A situation in which there are two (or more) causes present, which could have caused the damage separately where (at least) one of them can be imputed to the claimant, is not unimaginable. The Dutch legislator has tried to regulate this complex situation by adopting Articles 6:99 BW⁵⁹ and 6:101 BW⁶⁰ (contributory negligence).⁶¹ I choose to illustrate this situation by discussing asbestos-related cases in which uncertainty exists as to the cause of the damage.⁶² In such asbestos-related cases, the type of lung cancer that the potential asbestos victim contracted has a latency period from ten to thirty years. Compared to mesothelioma, the life expectancy of sufferers is slightly better but is still very alarming. Scientists concluded that approximately 60% of the patients diagnosed with lung cancer will

⁵⁸ AKKERMANS, 190-192.

⁵⁹ 'Where the damage has resulted from two or more events for each of which a different person is liable, and where it has been determined that the damage has arisen from at least one of these events, the obligation to repair the damage rest upon each of these persons, unless he proves that the damage is not the result of the event for which he himself is liable.' The meaning of this article also seems to be in accordance with Article 3:103 PETL:

(1): In case of multiple activities, where each of them alone would have been sufficient to cause the damage, but it remains uncertain which one in fact caused it, each activity is regarded as a cause to the extent corresponding to the likelihood that it may have caused the victim's damage.

⁶⁰ 'Where the circumstances which can be imputed to the victim have contributed to the damage, the obligation to repair is diminished by apportioning the damage between victim and the person who has the obligation to repair, in proportion to the degree in which the circumstance can be imputed to each of them, have contributed to the damage. The apportionment may vary or the obligation to repair can either be completely extinguished or not apportioned at all, if equity so requires due to the different degree of gravity of the faults committed or any other circumstance in the case.'

⁶¹ The meaning of Art. 6:101 BW is in line with Art. 8:101 PETL, which deals with contributory conduct or activity of the victim. Art. 8:101 PETL:

(1): Liability can be excluded or reduced to such extent as is considered just having regard to the victim's contributory fault and to any other matters which would be relevant to establish or reduce liability of the victim if he were the tortfeasor.

⁶² For example, the cases: *Nefalit/Karamus* (HR 31 maart 2006, RvdW 2006, 328); *Badger v. Ministry of Defence* [2005] EWHC 2941 (QB), [2006] 3 ALL ER 173.

die within the first year, 80% will die within the first two years, and 90% of the patients will die within four years.⁶³

It is useful to return here to the 2006 *Nefalit/Karamus* case outlined at the start of this article.⁶⁴ In the year 2000, Mr Karamus died on the consequences of lung cancer. Mr Karamus smoked for twenty-eight years, and smoking tobacco could have been the main cause in the development of lung cancer. However, Mr Karamus had also been negligently exposed to asbestos in the course of part his employment (1964–1979). Does this knowledge lead to the conclusion that Mr Karamus' lung cancer was caused by the admitted exposure to asbestos?

Probably not, the exposure to asbestos does not take away the possibility that the lung cancer was caused by Mr Karamus' smoking history, his genetic predisposition, external causes, or his age. The Supreme Court found that Mr Karamus could not prove to a reasonable degree of certainty that the lung cancer was caused by the negligent occupational exposure to asbestos. Applying *conditio sine qua non*, combined with the traditional all or nothing solution, the Supreme Court *could* have dismissed this claim arguing that the claimant is unable to prove factual causation.⁶⁵

However, in this specific situation it is possible to express the degree of probability that the exposure to asbestos caused Mr Karamus' lung cancer, in a percentage. Great weight is therefore placed upon expert(s) opinion estimating the chance, and extent to which, the lung cancer was caused by the admitted exposure to asbestos dust in relation to a number of possible causes. In special circumstances, the claimant's inability to prove *conditio sine qua non* does not exclude the tortfeasor from liability. In order to hold the tortfeasor liable for the injury that the victim sustained, the claimant must first try to establish that there is a chance that the wrongful occupational exposure to asbestos could have caused his lung cancer.⁶⁶ Applying the traditional all or nothing approach, the employee would get all his damages compensated if experts are able to prove that there is a high⁶⁷ chance that the exposure to asbestos dust caused his lung cancer. However, in multiple causation cases, such high chances cannot be established because multiple factors are present and anyone of which could have caused the claimant's damage. Proving causation to a reasonable degree of certainty is (almost) impossible in asbestos-related cases in which uncertainty arises as to the cause of the damage.

⁶³ A. BURDORF ET AL., 'Schatting van asbest-gerelateerde ziekten in de periode 1996–2030 door beroepsmatige blootstelling in het verleden' (1997): 32.

⁶⁴ HR 31 maart 2006, RvdW 2006, 328 (*Nefalit/Karamus*).

⁶⁵ van Kampen and MacLean do not agree arguing that a 55% chance would pass the reasonable degree of certainty threshold. See T.A. VAN KAMPEN & M.M. MACLEAN, 'Proportionaliteit: verdeling van aansprakelijkheid of van schade', *PIV Bulletin*, no. 4 (2006): 1–5.

⁶⁶ C.A.M. SWAGEMAKERS & H.W.P.B. TAMINAU, 'Themanummer: De zieke werknemer', *Arbeid Integraal* (2007), 9.

⁶⁷ The probability is high enough to prove causation to a reasonable degree of certainty.

In *Nefalit*, the employer (Nefalit) denied liability on the ground that there was a considerable chance that the lung cancer was not caused by the admitted exposure to asbestos but by the employee's twenty-eight years of heavy smoking. Medical science had at that time, and indeed still today, not been able to determine whether the lung cancer was caused by the wrongful exposure to asbestos or by other factors that could be attributed to the employee. The key evidence on causation was given by epidemiologists, who referred to asbestos exposure as adding to the risk of lung cancer. The epidemiological expert report assessed the chance that the lung cancer was caused by the exposure to asbestos dust at 55%. On that basis, the Dutch Court of Appeal awarded 55% of the damages claimed. The Dutch Supreme Court subsequently affirmed the judgment of the Court of Appeal and ruled (on the basis of Article 6:99 BW) that the employer was liable in full, but that this obligation to repair was diminished by the degree to which the employee can be held personally responsible for contributing to the damage (Article 6:101 BW⁶⁸). The Dutch Supreme Court ruled that smoking, aging, Mr Karamus' genetic predisposition, and external causes should be attributed to Mr Karamus.⁶⁹ The Supreme Court awarded damages in accordance with the probability that asbestos has caused the lung cancer (55%).

In *Nefalit*, we can conclude that there is a probability of 55% that asbestos exposure caused the lung cancer. The influence of smoking has – by using population level figures – been discounted in the 55%. The likelihood of that lung cancer being caused by Mr Karamus' smoking history should not be subtracted from the assessed 55% because the remaining 45% represent all other possible causes (including the unknown influence of smoking on a micro level, genetic predisposition, age, eating habits, external causes, and so on).⁷⁰ According to the Dutch Supreme Court, both Articles 6:99 BW and 6:101 BW, as used in *Nefalit*, support the application of proportional liability. This new approach results in a claim only being partially awarded but could also result in awarding damages in cases of relative low exposures to asbestos.

At first glance, it seems to me that the theory of proportional liability has changed the perspective by which Dutch judges and legal scholars approach the concept of multiple causation. The main critique on the application of this technique focuses on the concept of proportional liability. Dutch scholars argued that it will undo the basic requirements for liability in the way that *conditio sine qua non* is

⁶⁸ 'Where the circumstances which can be imputed to the victim have contributed to the damage, the obligation to repair is diminished by apportioning the damage between victim and the person who has the obligation to repair, in proportion to the degree in which the circumstance can be imputed to each of them, have contributed to the damage. The apportionment may vary or the obligation to repair can either be completely extinguished or not apportioned at all, if equity so requires due to the different degree of gravity of the faults committed or any other circumstance in the case.'

⁶⁹ H.J.W. ALT, 'Werkgeversaansprakelijkheid ex Art. 7:658 BW anno 2007: persoonlijke predispositie, de zorgplicht van de werkgever en de stelplicht van de werknemer', *Arbeidsrecht*, no. 12 (2008): 18.

⁷⁰ Kortmann does agree: KORTMANN, 1405.

not a necessary element of liability anymore.⁷¹ This criticism is logically, without doubt, correct. However, in multiple causation cases, the assessment of causation cannot result in a yes or no answer because the outcome of the *conditio sine qua non* test is always uncertain. In my view, the proportional liability theory should be seen as an enrichment to the legal system instead of a denigration to the legal system because the inclusion of the rule produces, as discussed in section 6, a fairer result than had previously been applied.

8. Assessing the Probability of Causation and the Role of Experts

The appointed expert in *Nefalit*, Professor Smid,⁷² used a model to assess the chance that Mr Karamus' lung cancer was caused by the exposure to asbestos in the course of the employment. A similar model was advised by the Health Council of the Netherlands and was submitted in an advisory Report to the State Secretary for Social Affairs and Employment in 2005.⁷³ This model is applied to assess the 'probability of causation' in cases of lung cancer that could have been asbestos related.

Before addressing the substantive contribution of the expert in the case, it is necessary to make one general observation, which counts for all jurisdictions. The role of experts is well established in literature, and judges in asbestos-related cases do not have the relevant experience or qualification to make decisions without such experts. However, it is very clear that judges and experts do not speak the same language, and this cross-disciplinary discussion can cause miscommunication. The application of the proportional liability theory could lead to judgments based on the wrong basic assumptions. Work is needed to ensure that the judiciary and lawyers are familiar with what can and cannot be drawn from the expert evidence, and that evidence must be presented in simple, clear ways to avoid confusion.

On the issue of probability of causation, according to the Health Council of the Netherlands: 'the increase in the risk of developing lung cancer can be described as to be proportional to cumulative exposure - the product of the concentration of fibres in the air and exposure time'.⁷⁴ Cumulative exposure is generally expressed in fibre years. One fibre year is the exposure to air during one year, which contains one asbestos fibre per cubic centimetre. The employment history should be taken into account in order to determine the total amount of fibre years. Depending on the way in which the asbestos has been used, the increased risk (risk coefficient) of developing lung cancer varies from 0.1 to 5% per fibre year.

For the Netherlands, given the lack of precise data on the type of asbestos, a risk coefficient (extra risk) of 1% per fibre year is seen as a scientifically accountable

⁷¹ D. ZIVCOVIC, 'Proportionele aansprakelijkheid voor de blootstelling aan sigarettenrook op de werkplek', *Tijdschrift voor Vergoeding Personenschade*, no. 2 (2007), 38-45.

⁷² Professor in Working Conditions, VU Amsterdam, The Netherlands.

⁷³ Gezondheidsraad, *Protocollen asbestziekten: longkanker*. Den Haag: Gezondheidsraad, 2005: publicatienr. 2005/09.

⁷⁴ Gezondheidsraad, *Protocollen asbestziekten: longkanker*, 16. Den Haag: Gezondheidsraad, 2005: publicatienr. 2005/09.

starting point. In *Nefalit*, Professor Smid stated, in accordance with this starting point, that the risk to contract lung cancer (risk coefficient) increased with 1% per fibre year, thus following the conclusions set up by the Health Council of the Netherlands. According to the Health Council, higher figures are appropriate in cases of regular exposure to the more hazardous fibre types.⁷⁵ In addition, smoking tobacco is also a highly relevant factor because the risk coefficient for a non-smoking employee appears to be a factor of three times higher, compared to the risk coefficient for regular smokers, in the same level of exposure.⁷⁶ If you do not smoke but have lung cancer, the likelihood of that lung cancer being caused by the asbestos is much higher than the same in the smoking population, as there is an equally strong chance that the smoking could have caused the lung cancer. It thus is more likely that asbestos caused the lung cancer to a non-smoking employee.

The Dutch Health Council furthermore concluded that the effects of smoking tobacco in combination with being exposed to asbestos fibres could reinforce each other in the development of lung cancer. This is known as: ‘the multiplicative effect of smoking’ and is referred to as ‘synergistic causation’. In case a smoking employee has been exposed to asbestos, the risk of developing lung cancer increases dramatically. However, determining the exact cumulative exposure (*E*) in a specific case proved to be extremely difficult. The Health Council ‘deems the role of industrial hygiene experts to be essential here’.⁷⁷ With regard to the degree of exposure, the industrial hygienist can, if available, fill in details about the conditions in which the (former) employee has worked. In assessing the cumulative exposure, and expressing it in fibre years, experts try to determine a minimum and a maximum level of cumulative exposure. Within this range, the expert subsequently points out what, in his opinion, should be taken as the most likely level of cumulative exposure in the specific case.⁷⁸ The Health Council concluded that the ‘Probability of Causation’ could best be assessed by applying the following formula:

$$PoC^{81} = \frac{E^{79} \times K^{80}}{1 + E \times K} \times 100$$

⁷⁵ The chemical nature of the fibres is also an important factor in the development of the disease: white (chrysotile) asbestos seems to be less dangerous than blue (crocidolite) or brown (amosite) asbestos.

⁷⁶ Gezondheidsraad, *Protocollen asbestziekten: longkanker*, 17, 18. Den Haag: Gezondheidsraad, 2005: publicatienr. 2005/09.

⁷⁷ Gezondheidsraad, *Protocollen asbestziekten: longkanker*, 17. Den Haag: Gezondheidsraad, 2005: publicatienr. 2005/09.

⁷⁸ The nature of the disease causes an enormous evidential difficulty as the data may not have been gathered at the point of contamination (which could have been decades before the case). This is, however, an evidential difficulty and not a difficulty going to the rules to be applied to the evidence.

⁷⁹ Fibre year.

⁸⁰ Risk coefficient.

⁸¹ Probability of Causation.

The formula works as follows: employee ‘X’ was exposed to asbestos in the course of his employment and developed lung cancer that could have been caused by the wrongful exposure to asbestos dust. However, in this specific case, it is uncertain whether the wrongful exposure caused the lung cancer since it is highly possible that a number of other factors could have caused the lung cancer to employee ‘X’ as well.⁸²

To assess the probability of causation (PoC), between the exposure to asbestos and the contraction of lung cancer, experts are asked to determine the cumulative exposure (expressed in fibre years). If the expert concluded that the cumulative exposure (E) is twenty fibre years⁸³ and that the risk coefficient (K) is one, then the probability of causation (PoC) could be assessed as followed:

$$\text{PoC} = \frac{20 \times 0.01}{1 + 20 \times 0.01} \times 100 = 17\%$$

In this example, one could conclude that there is a probability (17%) that X’s lung cancer is caused by the exposure to asbestos in the course of the employment. As said, applying the proportional liability theory, a judge does not simply award or reject the total amount of damage but awards damages in proportion to the probability of causation. This proportional solution implies that 17% of the damages claimed should be awarded as this amount of compensation is exactly in line with the (macro) probability that the exposure to asbestos has caused the lung cancer. Applying the traditional all or nothing approach in such a case, the claimant would leave empty-handed because he is unable to prove factual causation to a reasonable degree of certainty. Nor is the English claimant in such a case able to prove factual causation on the balance of probabilities.

9. Contributory Negligence: An English Solution for Multiple Causation

English law does not apply the proportional liability theory in asbestos-related cases. English law uses the principle of contributory negligence to award partial compensation in asbestos-related cases concerned with the problem of multiple causation. In *Badger v. Ministry of Defence*,⁸⁴ the claimant’s husband (Mr Badger) had been exposed to asbestos while working for the defendant (Ministry of Defence) as a boilermaker. Mr Badger developed asbestosis first before he was diagnosed with

⁸² Employee ‘X’ was also a heavy smoker.

⁸³ The expert in the *Nefalit* case concluded that the cumulative exposure was 125 (fibre years).

⁸⁴ *Badger v. Ministry of Defence* [2005] EWHC 2941 (QB) [2006] 3 ALL ER 173.

lung cancer.⁸⁵ Mr Badger died from the consequences of lung cancer in 2002 at the age of 63. Similar to the Dutch *Nefalit* case, Mr Badger's lung cancer could have been caused by multiple factors and evidence showed that Mr Badger was a heavy smoker.

In *Badger*, the defendant admitted primary liability for Mr Badger's widow's claim. However, at the same time, the defendant argued that the claimant's damages had to be reduced by 25% on account of Mr Badger's contributory negligence. Mr Badger continued smoking when he knew or ought to have known that this could harm his health and could lead to lung cancer. Mr Badger had received numerous warnings about the damage that his continued smoking was causing to his health. The English government issued the first health warnings about smoking in the 1970s. Evidence showed that Mr Badger even had been specifically advised on the damaging effects of smoking on his health. However, despite the warnings that he had received, he continued smoking. In *Badger*, the defendant accepted that it was guilty of breaches of statutory duty at a time when the dangers of asbestos were known. Therefore, Mr Badger's contributory negligence was less than 50%.

In *Badger*, the requirement of causation between the wrongful exposure to asbestos and Mr Badger's lung cancer was not contested because Mr Badger developed asbestosis before he was diagnosed with lung cancer. However, the court decided that Mr Badger must have known that there is a causal link between smoking cigarettes and the development of lung cancer. The court ruled that a reasonable prudent person in his position would have stopped smoking in the mid-1970s, which should - on a macro scale - have reduced the risk of contracting lung cancer. However, when Mr Badger began smoking the causal link, between smoking and health damages, was not widely accepted yet. Mr Badger's fault was in failing to give up smoking. This means that Mr Badger was responsible (in liability terms) for a fault that was partly responsible for his own death. The principle of contributory negligence has been created to acknowledge properly that a person has a certain responsibility for his own actions. The court ruled that the appropriate deduction for Mr Badger's contributory negligence was 20%. The recoverable damages were reduced by that amount, which resulted in the fact that the court awarded 80% of the damages claimed.

The decision in *Badger* made clear that an employer, who has exposed his employee to asbestos in the course of the employment, can be held liable for the employee's lung cancer despite the fact that the lung cancer may not have been caused by the exposure to asbestos. As said, lung cancer that could have been

⁸⁵ Keep in mind that the causal link between asbestosis and the development of lung cancer is highly debated in medical literature. In *Shortell v. Bical Construction Ltd* [2008], QBD Liverpool (16 May 2008), John Joseph Shortell died of lung cancer after he had been exposed to asbestos in the course of his employment. In *Shortell*, the employee did not develop asbestosis first before he was diagnosed with lung cancer. The court established causation on the basis of expert evidence and applied the rules set out in the *Badger* case to determine the deceased's degree of contributory negligence. A reduction had to be made for the deceased's contributory negligence and was assessed at 15%.

asbestos related can have multiple causes, of which cigarette smoking is a main ‘other possible cause’ at a population level.⁸⁶ *Badger* showed that the employee’s smoking history constituted contributory negligence, which means that the total damage should be reduced by the amount to which smoking could have contributed to the damage. Mr Badger thus had a certain responsibility for his own actions (smoking).

10. The Dutch Approach versus the English Approach

In the Netherlands, courts and legal scholars were not satisfied with the traditional all or nothing solution to compensate the claimant and tried to introduce constructions that could possibly remove the drawbacks connected to the all or nothing approach in asbestos-related cases concerned with the problem of multiple causation. In *Nefalit*, the Dutch Supreme Court applied the proportional liability theory for the first time and awarded damages in proportion to the probability of causation. English courts have not applied this theory yet to solve such complex cases. The facts in *Badger v. Ministry of Defence*⁸⁷ were comparable to the facts in the Dutch case *Nefalit and Karamus*, except for the fact that Mr Badger developed asbestosis first before he was diagnosed with lung cancer.⁸⁸ On the issue of causation, the courts have approached the problem of multiple causation differently.

In *Nefalit*, the appointed expert was asked to assess the probability that the exposure to asbestos had caused the claimant’s lung cancer. The expert assessed this probability at 55% and the Dutch Supreme Court, following the expert evidence, awarded 55% of the damages claimed. In *Nefalit*, we can conclude that there is a probability of 55% that asbestos exposure caused the lung cancer. The influence of smoking has – by using population level figures – been discounted in the 55%. The likelihood of that lung cancer being caused by Mr Karamus’ smoking history should not be subtracted from the assessed 55% because the remaining 45% represent all other possible factors that could have caused the lung cancer, such as the unknown influence of Mr Karamus’ smoking history (micro level), genetic predisposition, age, eating habits, and external causes.⁸⁹

In *Badger*, the court established causation and ruled, with a similar effect to that achieved in *Nefalit*, that Mr Badger’s smoking history constituted contributory negligence and that Mr Badger himself should be held responsible for the damage caused by his smoking. However, as opposed to *Nefalit*, the English court awarded 80% of the damages claimed. The court ruled that 20% was an appropriate reduction in damages. English law thus uses the principle of contributory negligence to reach fair outcomes in asbestos-related cases concerned with the problem of multiple causation. What is unclear, of course, is what the Dutch courts and experts

⁸⁶ Gezondheidsraad, *Protocolen asbestziekten: longkanker*, 16. Den Haag: Gezondheidsraad, 2005: publicatiernr. 2005/09.

⁸⁷ *Badger v. Ministry of Defence* [2005] EWHC 2941 (QB) [2006] 3 ALL ER 173.

⁸⁸ See n. 84.

⁸⁹ Kortmann does agree: KORTMANN, 1405.

would have awarded to Mr Badger and what the English courts and experts would have awarded to Mr Karamus.

The English solution differs from the Dutch approach. In *Nefalit*, an expert was appointed to assess the probability that the lung cancer was caused by asbestos exposure. In *Badger*, on the other hand, the court established causation but did not assess the probability that Mr Badger's lung cancer was caused by the wrongful exposure, rather he estimated the likelihood that Mr Badger's smoking history had caused the lung cancer. In addition, and different from *Nefalit*, the court did not take into account other factors that could have caused the damage, such as Mr Badger's genetic predisposition, external causes, and his age. Not that the Dutch court would have looked specifically at Mr Badger's particular risk factors as the science is not yet capable of making such an assessment; rather, the Dutch court would take the broader risk factors (smoking, genetic predisposition, aging, and so on) into account on through general population studies.

There is one major difference between the jurisdictions: one should consider what the outcome of this case would have been in England if Mr Badger had never smoked. Under Dutch law, proportional liability still applies in such a situation, which means that the claimant will still be compensated in line with the probability that asbestos has caused the lung cancer.⁹⁰ However, would it, under English law, be fair to award full compensation when there is still a real probability that Mr Badger's lung cancer had been caused by other factors, or whether smoking is a different 'other factor' from genetic disposition or age because these other factors are not choices for the claimant?

11. Conclusion

Under Dutch and English laws, causation is a fundamental requirement to establish liability. Rules of evidence show that the Dutch claimant must prove causation, between the exposure to asbestos and the lung cancer, to a reasonable degree of certainty. The English claimant must prove that it is on the balance of probabilities more likely than not that the breach of the duty of care has caused his damage. Proving causation to a reasonable degree of certainty or on the balance of probabilities is, in asbestos-related cases concerned with the problem of multiple causation, extremely difficult and sometimes even impossible because medical science is unable to determine whether the lung cancer is caused by the exposure to asbestos or by other factors. One could therefore wonder whether the claimant's inability to prove causation is a valid reason to deny liability, especially when it is regarded that it is proven that the defendant had been at fault and that there is a real probability that this fault could have caused the damage to the claimant.

It is arguable that Dutch law requires a higher threshold to establish causation. Under English law, 51% is sufficient to establish causation while this

⁹⁰ HR 31 Mar. 2006, LYN: AU 6093.

percentage might not be sufficient to pass the Dutch reasonable degree of certainty threshold. This presumes, however, that the metaphor of 51/49% is a mathematical calculation when it is really about saying that, on balance, the evidence presented by one side is more believable than that presented by the other. To that extent, there is a similarity in reasonableness between the two jurisdictions. Further research is needed to examine whether Dutch law requires a higher threshold to establish factual causation.

Both jurisdictions apply the traditional all or nothing solution to award compensation. The general rule is that the claimant will, depending on the outcome of the *conditio sine qua non* test, obtain compensation for the entire loss or receive no compensation at all. For that reason, the all or nothing approach leads either to over- or under-compensation. One percent can make the difference between being fully compensated and not being compensated at all, which could not be justified. Dutch courts and legal scholars have recognized the drawbacks connected to this traditional approach and have tried to introduce constructions that may remove these drawbacks, by adopting the proportional liability theory. Applying this theory, the judge does not simply award or reject the total amount of damages, rather he awards damages in proportion to the probability of causation.

Proportional liability has proven to be applicable in Dutch law and could, in my view, be seen as a justifiable approach to settle asbestos-related cases in which uncertainty arises as to the cause of the damage. On a macro scale, the defendant caused the damage to a certain degree, which subsequently could be expressed in probabilities and percentages. It is however impossible to determine the cause of the injury in an individual case because micro figures are not available in asbestos-related cases. For that reason, I would, in assessing the probability of causation, not hesitate to use macro figures in individual (micro) cases since doing so leads to the most reasonable results. Not using macro figures in individual cases is even more arbitrary.

In line with the Dutch *Nefalit* case and the English *Badger v. Ministry of Defence* case, I agree that there must be a reduction in damages to reflect the extent to which smoking may have contributed to the risk of developing lung cancer. In both cases, the principle of contributory negligence was used to reduce the amount of compensation. However, in future cases, the particular influence of smoking should be assessed more precisely as its role is clearly important in the development of the disease. Epidemiologists should distinguish the smokers from the non-smokers and even the heavy smokers from the less heavy smokers in order to determine causation adequately. Extensive epidemiological research in this field is a prerequisite for obtaining more accurate information on the way in which the habit of smoking affects the likelihood of the development of lung cancer among people who have been occupationally exposed to asbestos.

Badger v. Ministry of Defence showed that English courts approach the issue of causation differently when compared to Dutch courts in similar situations. In *Badger*, the court established causation and subsequently estimated the likelihood that Mr Badger's smoking history had caused the lung cancer. The Court did,

as opposed to *Nefalit*, not take into account other factors that could have caused the damage. This means that if Mr Badger did not smoke he would probably have been fully compensated while there is still a real probability that asbestos did not cause the lung cancer. In my view, those other factors, such as the claimant's genetic predisposition, his age, and external causes, must be taken into consideration to adequately determine the probability that asbestos exposure had caused the lung cancer.

However, even the Dutch proportional liability solution is not the best technique to compensate potential asbestos victims. In *Nefalit*, the Supreme Court made clear that the application of the proportional liability theory is limited, by a minimum and a maximum percentage, in order to reach reasonable outcomes. It is extremely difficult to determine a general limitation that could be used in all liability areas. In addition, limiting proportional liability to a minimum and maximum has drawbacks. If, for example, the option to award damages in proportion to the probability of causation is limited to a minimum of 20%, similar problems can be expected. The problem of over- or under-compensation will, although in a more justified way, arise and 1% can - again - make the difference between being fully compensated in accordance with the probability of causation and not being compensated at all.

All solutions to the problem of multiple causation have drawbacks. We have to recognize and realize that there is simply no perfect solution available in such complex cases. The problem of uncertain causality is, in such cases, intractable because medical science is still unable to determine the precise cause of the lung cancer. Instead of retaining traditional principles of establishing causal relationships that so often produce unjust outcomes, proportional liability should be accepted as an enrichment to the legal systems and as a sufficiently just resolution until medical science lifts the evidential fog.

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