EXTENDING THE ROLE OF TORT AS A MEANS OF ENVIRONMENTAL PROTECTION: AN INVESTIGATION OF RECENT DEVELOPMENTS IN THE LAW OF TORT AND THE EUROPEAN UNION

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by

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Abstract

The purpose of this thesis is to determine the extent to which it is possible to develop an environmental role for the law of tort. To date, the role of tort has been limited in this context by procedural and substantive difficulties in establishing liability (known as transaction costs). Furthermore, whereas environmental protection is a public interest objective, the law of tort is primarily a means of resolving private disputes. The common law has traditionally regarded private rights as being divisible from public interest issues such as environmental protection.

The current debate has been prompted by a number of European Union and Council of Europe initiatives on the subject which consider developing tort in this manner by the introduction of a specialist environmental liability regime. However, much of the current debate lacks an appreciation of a fundamental issue, namely purpose of tort in contemporary Western society. This research seeks to make a valuable contribution by assessing the extent to which it is possible to ground an environmental application of tort in a sound conceptual basis.

The thesis commences with an overview of the main torts which are relevant in an environmental context and the difficulties which have been experienced by plaintiffs in establishing liability. Given that the main limitation of tort is that it focuses on private interests; it is considered whether it is possible to develop a public interest model of tort which admits wider issues such as the desirability of environmental protection. This involves consideration of a range of issues, including the 'philosophy' underpinning tort, the economics of tort, property law and insurability of environmental liability. It is concluded that it is possible, both in conceptual and practical terms, to develop a public interest model of tort and that, furthermore, there are potential benefits with such an approach. The principal advantage of tort is that it allows private individuals to participate in the policing of the environment. An analysis of EC policy on this subject demonstrates that this may provide the rationale for EC intervention in this field.

In the light of these theoretical and policy objectives, the EC proposals, alluded to above, are discussed in depth. These initiatives are compared with solutions adopted by individual Member States which have already implemented their own environmental liability regimes. Conclusions are drawn regarding the extent to which such developments may succeed in increasing the efficacy of tort as a means of environmental protection and the wider implications of such an approach. It is concluded that a specialist environmental liability regime may be instrumental in developing a concept of 'stewardship', in which proprietary interests in natural resources entail both rights *and* responsibilities.

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Table of Abbreviations

ABI	Association of British Insurers
ACA	Anglers' Cooperative Association
ADAS	Agricultural and Advisory Service
AWE	Atomic Weapons Establishment
BATNEEC	Best Available Technology Not Entailing Excessive Cost.
BGB	Das Bürgerliches Gesetzbuch (German Civil Code)
BHS	British Herpetological Society
BNFL	British Nuclear Fuels Limited
BPM	Best Practicable Means
CERCLA	Comprehensive Environmental Response Liability Act
CGL	Comprehensive General Liability
CO_2	Carbon Dioxide
CVM	Contingent Valuation Method
DGXI	EC Commission Environmental Directorate
EIL	Environmental Impairment Liability
EPA	Environmental Protection Agency (UK, US and Australia)
ESP	Electro-Static Precipitator
FCS	Fat Cow Syndrome
GMO	Genetically Modified Organism
HMIP	Her Majesty's Inspectorate of Pollution
IGC	Inter-Governmental Conference
IPC	Integrated Pollution Control
NGO	Non-Governmental Organization
NHL	Non-Hodgkins Lymphoma
NRA	National Rivers Authority
NRPB	National Radiological Protection Board
PAH	Polycyclical Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
PCE	Perchloroethene
PHAH	Polyhalogenated Aromatic Hydro-carbons
PPI	Parental Pre-Conception Irradiation
SSSI	Site of Special Scientific Interest
SO_2	Sulphur Dioxide
TCDD	Tetrachlorodibenzo-p-dioxin
WWF	World Wildlife Fund

Table of Cases Cited

(*UK, EC and Foreign Jurisdictions*)

Chapter 1

Introduction

1. BACKGROUND AND OBJECTIVES OF RESEARCH

During the latter part of the 20th Century environmental damage, resulting from industrialization, has become an important political issue. Attention has been focused on the extent to which law may provide a solution to the problem. This has given rise to the development of environmental law.[1] Although environmental law has only become a discreet area of study in recent years its origins may be traced back several centuries.[2] However, until the nineteenth century attempts to deal with pollution by regulation were rare.[3] Thus, in cases where pollution caused loss or discomfort to an individual, it was necessary to have recourse to the common law. The common law proved ineffectual in the face of the industrial revolution with the result that, during the nineteenth and twentieth centuries, there has been a systematic attempt to control pollution by means of regulation.[4] This has led to the marginalization of tort in this context.[5]

In the light of these developments the issue which this research addresses is whether tort has the potential to fulfil an important role as part of an overall system of environmental regulation. The current debate has been prompted by a number of European Union and Council of Europe initiatives proposing the introduction of measures designed to adapt tort as a means of environmental protection. Thus, as will be seen below, various means have been suggested of overcoming, by way of statutory intervention, the particular difficulties which face a plaintiff when attempting to establish liability for environmental damage.

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[1] However, environmental law is not a self-contained branch of law comprising unique principles. Rather, it is a banner under which those areas of law, which may be used to control environmentally harmful activities, are loosely grouped. See Ball, S., and Bell, S. (1994) *Environmental Law* (2nd edn.), Blackstone, ch. 1.

[2] Garner refers to the now celebrated incident in 1584 in which William Shakespeare's father was prosecuted by the town council for allowing a dung heap to accumulate outside his house in Henley Street. He also refers to an ordinance issued in 1610 by James I which prohibited the burning of sea coal within a mile of "our city of Westminster"; See Garner, J.F. "Environmental Law - a Real Subject?" (1992), 142(6580) *New Law Journal* 1718.

[3] This is due to the fact that until the nineteenth century there was not a regulatory machine in place capable of assimilating data and drafting an administrative response to problems such as pollution. See Atiyah, P.S. (1979) *The Rise and Fall of Freedom of Contract*, Clarendon Press, ch. 5.

[4] The developments which allowed this to take place, such as the evolution of a new professional class, are reviewed by Atiyah, op. cit., ch. 5.

[5] Consequently some doubt whether the common law any longer has a useful role to fulfil as a means of formulating responses to new problems. See Calabresi, G. (1982), *A Common Law for the Age of Statutes*, Harvard University Press, at p. 163, "It is unrealistic to expect that courts will be able to play the kind of law making role they once played. For there will be too many situations in which, for example, the writing of a new law will simply be beyond the capacity of a court and in which, nonetheless, a new law must be promulgated all at once."

The research considers those factors which have limited the efficacy of tort as a means of environmental protection in the past and critically analyses various proposals designed to overcome those difficulties. However, this is set against consideration of a much wider issue, namely, the *purpose* of tort in this context. Traditionally, the law of tort has been primarily concerned with the protection of private interests,[6] whereas, environmental protection constitutes a public interest objective.[7] The main problem which has to be overcome concerns the extent to which the focus of tortious liability can be shifted from the protection of private interests to the protection of public interests. To this end it is necessary to determine whether it is practically and conceptually possible to develop tort in this manner and, furthermore, whether such an approach would augment the regulatory responses which are already in place. Much of the current debate lacks an appreciation of these issues. By considering the European proposals in the light of the wider theoretical perspectives regarding the function of tort, it is hoped that this research will make an original and constructive contribution to the debate.

Before proceeding to a more detailed overview of the main issues addressed and the structure of the research, it is necessary to place the subject in context by identifying the reasons for the ecological crisis and the role of environmental law in general.

2. THE NEED FOR ENVIRONMENTAL LAW

2.1 Growing Awareness of Environmental Damage

As stated above, the latter part of the twentieth century has seen a dramatic increase in public concern regarding environmental damage. Two hundred years of industrialization has left indelible scars on landscapes and resulted in the release of billions of tonnes of noxious substances into the environment[8].

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[6] Tort affords individuals a degree of private 'space' from which others can be excluded. Thus, both real and personal property can be protected from exploitation by others. In addition, 'bodily space' is protected by restrictions on the ability of others to cause personal injury or restrict freedom of movement. See Street, H. (1976), *The Law of Torts*, Butterworths, ch 1.

[7] In this case the focus is on the collective interests of society rather than the private interests of any individuals concerned. The same act, such as theft, may simultaneously cause loss to an individual and threaten a societal interest. However, the law has traditionally considered public interests as being divisible from private interests and has protected them through separate mechanisms, such as the criminal law. Thus, in the case of theft, the victim must protect his property through the tort of trespass to chattels, whereas, the state may seek to protect the public from anti-social behaviour through the criminal law. In due course it will become apparent that it is difficult to draw rigid demarcations between the realms of public and private law.

[8] See Berry, T. (1990), *The Dream of the Earth*, Sierra Club Books, at p. xiii, "we have changed the very chemistry of the planet, we have altered the biosystems, we have changed the topography and even the

Until comparatively recent times there appeared to be a belief that man was in some sense distanced from the environment[9]. Thus, the environment could be used as a form of receptacle for the harmful by-products of his industrial activities. However, there has been an increasing realization that man is part of the environment[10] and that, by releasing noxious substances, he is thereby inflicting harm upon himself. For example, modern scientific advances have established possible links between exposure to radiation in the vicinities of nuclear facilities and certain forms of cancer[11]. Other studies suggest that those living in close proximity to high voltage power lines may also be subjected to an increased risk of developing cancer[12].

On a global scale, there is a possibility that anthropogenic carbon dioxide emissions may marginally increase climatic temperatures and hence sea levels through thermal expansion of the oceans and melting of the ice caps[13]. Claims that such changes may threaten the long time survival prospects of our species may appear somewhat far-fetched[14]. Nevertheless, there is no doubt that even a marginal increase in sea levels would cause incalculable damage.[15]

2.2 The Source of the Environmental Problem

The root of the environmental problem lies in the manner in which natural resources are utilised. If the parties competing for the use of a resource fail to cooperate the

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geological structure of the planet, structures and functions that have taken hundreds of millions and even billions of years to bring into existence."

[9] This may in part be due to the anthropocentric nature of Judeo-Christian dogma which places man at the centre of the universe. According to White, this promoted the belief that "no item in the physical creation had any purpose save to serve man's purposes. And although man's body is made of clay, he is not simply part of nature: he is made in God's image." See White Jr., L., "The Historical Roots of Our Ecological Crisis" (1988) *Sanctuary* 3, at p. 4.

[10] See McDonagh, H. (1986), *To Care for the Earth: A Call to a New Theology*, Cassell Ltd., at p. 102: "To pretend that we have no organic connection with the rest of creation is to overlook the greater part of 20 billion years of the story of the universe."

[11] See, for example, Health and Safety Executive (1993), *HSE Investigation of Leukaemia and other Cancers in the Children of Male Workers at Sellafield*, HMSO.

[12] See *Daily Telegraph*, "Childhood leukaemia linked to power lines", 9 June 1994.

[13] For a review of the key research findings in the area see Pickering, K.T., and Owen, L.A. (1997), *An Introduction to Global Environmental Issues*, Routledge, ch. 3.

[14] See Lovelock, J. E. (1979), *Gaia: A New Look at Life on Earth*, Oxford University Press. At the risk of over-simplification the theory can be summarised as follows. Lovelock proposes that Earth should be regarded as a single ecological entity of which homo sapiens are only one component. Furthermore, the system has the ability to regulate its climate so as to rid itself of any species which threatens the long term survival of the eco-system as a whole. Thus, although the planet may allow us to destroy the habitat which humans need to survive, it will ensure that other forms of life may continue; thus, Lovelock states at p. 132, "[a] system as experienced as Gaia is unlikely to be easily disturbed."

[15] The insurance industry has estimated that damage could amount to trillions of dollars. See Weever, P., "The Greening of Industry - The environment is at the top of the agenda in Britain's boardrooms", *Sunday Telegraph*, 19 June, 1994.

resource will eventually be destroyed. In order to demonstrate this problem, in his notable article entitled *The Tragedy of the Commons*[16], Hardin uses the example of the overgrazing of common pastures in the Western United States. Before deciding to increase the size of his herd, a herdsman must conduct a simple cost - benefit analysis. The herdsman knows that, when the time comes to sell the additional cattle, he will receive all the proceeds of the sale. The costs relate to the additional burden which the extra cattle will place on the common pastures. However, the herdsman also knows that these costs will be shared amongst all those who have access to the commons. Thus, the fact that the herdsman will only have to bear a small percentage of these costs means that they will only amount to a fraction of the potential benefits. This leads the herdsman to the inevitable conclusion that he should acquire the additional cattle. However, this conclusion will also have been reached by every other herdsman with access to the commons with the result that herds will increase in size until the commons can no longer sustain them, thus:

> "Each man is *locked in* to a system that compels him to increase his herd without limit - in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. *Freedom in a commons brings ruin to all.*"[17]

Hardin argues that this analysis can also be applied to the problem of pollution; the only difference is that, rather than taking something from the commons (i.e. the environment[18]), man is putting something into the commons. The result is the same in that the commons will ultimately be damaged or rendered useless for certain activities such as agriculture. The cost - benefit analysis which a person may perform before deciding to discharge wastes into the environment, as opposed to purifying them or recycling them, is essentially the same as that performed by the herdsmen, thus:

> "The rational man finds that his share of the cost of the wastes he discharges into the commons is less than the cost of purifying his wastes before releasing them. Since this is true for everyone, we are locked into a system of 'fouling our own nest', so long as we behave only as independent, rational, free-enterprisers."[19]

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16 Hardin, G., "The Tragedy of the Commons" (1988) *Sanctuary* 7.
17 Ibid.
18 The environment may be equated with the 'commons' in that everyone has access to it
19 Hardin, op. cit., at p. 8.

2.3 The Purpose of Environmental Law

Hardin continues that the tragedy of the commons analogy, "as a food basket" is averted by private property. This enables a person to ring-fence an area of land and protect it from exploitation by others. However, as regards the pollution application of the analogy, property rules are not always conducive to environmental protection. One problem is that pollution does not respect property boundaries; as Hardin points out, "the air and waters surrounding us cannot readily be fenced."[20] A more fundamental difficulty is that the same rules which prevent others from damaging a resource may enable the owner to damage the resource himself:

> "Indeed, our particular concept of private property, which deters us from exhausting the positive resources of the earth, favors [sic] pollution. The owner of a factory on the bank of a stream - whose 'property' extends to the middle of the stream - often has difficulty seeing why it is not his natural "right" to muddy the waters flowing past his door. The law, always behind the times, requires elaborate stitching and fitting to mold [sic] it to this newly perceived aspect of the commons."[21]

Accordingly, it has been necessary to develop a range of coercive laws or taxing measures the purpose of which is to render it more expensive to discharge pollutants into the environment as opposed to treating them first. Such measures have given rise to the body of law which is now loosely termed 'environmental law'.

Given the fact that, according to Hardin's analysis, private law may actually be antipathetic to environmental protection it is not immediately apparent whether tort has any useful role to fulfil in this context. This returns us to the central issue, to use Hardin's phraseology, to what extent is it possible to stitch and fit tort so as to mould it to this new objective?

3. THE LAW OF TORT AND THE ENVIRONMENT

At this point it would be useful to clarify what is meant by tort. As will become apparent in due course it is impossible to arrive at an all encompassing explanation which defines all its attributes and functions.[22] Thus, it is more profitable to

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[20] Ibid.
[21] Ibid.
[22] See Rogers, W.V.H. (1989), *Winfield and Jolowicz on Tort*, Sweet & Maxwell, at p. 1: "It is not possible to assign any one aim to the law of tort, which is not surprising when one considers that the

concentrate on the purpose and functions of tort.[23] The function of tort varies, according to the particular tort and the circumstances of the case, however, as Rogers explains: "At a very general level...we may say that tort is concerned with the allocation or prevention of losses, which are bound to occur in our society".[24] Clearly, not every loss is actionable; a tort is an act or omission which constitutes a breach of duty fixed by law. The reasons why certain acts and omissions are deemed actionable may be founded on an idea of justice or the need to allocate losses in a certain manner. This is an issue which is discussed in more detail below in the context of the philosophy of tort.

Historically, tort has served as a means of private dispute resolution; in this respect it has not been expressly concerned with securing third party objectives such as environmental protection. Nevertheless, it is recognized that tort has an environmental dimension. For example, a private assertion of property rights under nuisance may result in some collateral environmental benefit. This would be the case if a householder, troubled by noxious fumes, succeeded in enjoining the responsible activity. This has given rise to the so-called 'toxic tort' which is defined by Pugh and Day as follows:

> "The term 'toxic tort' is a shorthand phrase...for any claim that has, at its base, the prospect that an individual has suffered damage to person, property or to the quiet enjoyment of his/her property, or there has been damage caused to the local environment as a result of environmental pollution. The term therefore covers damage resulting from industrial waste pumped into the environment, whether into the air, the sea, the rivers...It covers chemical and radioactive waste. It also covers claims for nuisance resulting from noise, dust etc. Finally it covers damage to the environment itself."[25]

Other torts are also relevant in an environmental context. Certain hazardous substances which are solid and tangible, such as sheets of asbestos, could constitute a trespass to land if left on another person's property. Where the polluter is culpable and there has been property damage or personal injury it may be possible to establish liability under

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subject comprehends situations as disparate as A carelessly running B down in the street and C calling D a thief; or E giving bad investment advice to F and G selling H's car when he has no authority to do so."

[23] See Street, op. cit., at p. 3: "Much ink has been spilt in unsuccessful attempts to define a tort...It is the function and purpose of the law of torts that are of greater import, and these are matters which can be explained in comparatively simple terms."

[24] Ibid.

[25] Pugh, C., and Day, M., Toxic Torts (1992)

negligence. Emissions from certain installations may constitute a breach of statutory duty.

However, the role of tort, in this context, has been limited by factors which are succinctly summarized by Hughs as follows:

> "[A]ctions at common law are time-consuming and expensive, fraught with complex technicalities and, in general, only on an individual, rather than a class, basis. A person cannot be the plaintiff in an action at common law unless he has a vested interest in the subject matter of the action; so in an action in tort the plaintiff must be the person injured by the wrongdoer."[26]

This encapsulates the main issues addressed in subsequent chapters. The technical difficulties, to which Hughs refers, have limited the role of tort as a means of environmental protection in the past. As will be seen below, they include such matters as the need to establish a causal link between environmental damage and a certain activity. However, the latter difficulties highlighted by Hughs touch on a much wider issue, namely, the purpose of tort. The fact that the plaintiff must have a vested interest in the subject matter of the action highlights the fact that tort is primarily concerned with the resolution of private disputes. As stated above, one of the most important issues which has to be addressed concerns the extent to which the focus of tort can be moved from the interests of the parties to the interests of the environment. Ultimately, this may require a reassessment of what constitutes a 'vested interest in the subject matter of the action'. These wider issues must be addressed before dealing with the detail of specific proposals designed to increase the role of tort in this context.

4. STRUCTURE OF RESEARCH

The subject of civil liability for environmental damage involves several areas of law and raises a multitude of issues. In order to clarify the main arguments, the material has been marshalled into the following structure which leads one through the issues in a logical manner. The operation of tort in an environmental context and the main difficulties which face a plaintiff, when attempting to establish liability for environmental damage, are dealt with in chapters 2 and 3. Chapter 4 then considers whether it is conceptually and practically possible to adapt tort so as to render it more effective in this context and, furthermore, whether such a development would serve a useful purpose. As most initiatives on the subject stem from EU proposals, chapter 5 is

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[26] Hughs, D., *Environmental Law* (3rd edn. 1989) Butterworths, at p. 37.

devoted to an overview of EU environmental policy and how civil liability might be accommodated by its overall environmental strategy. Chapter 6 considers specific proposals on civil liability, designed to overcome the difficulties described in chapter 3, in the light of the theoretical perspectives and EU objectives. The conclusion outlines the extent to which it may be possible to develop a workable model of tort based environmental liability and the wider ramifications of such an approach. This gives rise to the following issues.

4.1 Current Limitations of Tort

The general difficulties of establishing liability in tort for environmental damage have already been outlined above. Chapter 2 provides an overview of the main torts which are of relevance in an environmental context and how they have been applied in this field. Chapter 3 analyses in detail those factors which have limited the use of tort as a means of environmental protection. These include technical difficulties associated with establishing fault and causation. Furthermore, it is noted that, as tort has been principally concerned with the protection of private interests, there is a limited notion of standing in civil matters. Related to this problem is the fact that remedies awarded by the courts tend to reflect the loss incurred by the individual rather than the damage sustained by the environment.

4.2 The Role of Tort in an Environmental Context

Chapter 4 addresses the fundamental issue of the role of tort. As stated above, much of the current debate lacks an appreciation of the theory of tort and its role in a modern society. Unless these issues are addressed it is difficult to justify the use of tort as a means of environmental protection or to define how it should operate. The object of the chapter is to ascertain whether there is a sound theoretical basis which justifies the use of tort as a specific means of environmental protection. To this end the chapter considers the following issues.

4.2.1 The Philosophy of Tort

In order to understand the fundamental objectives of tort it is necessary to consider the theoretical basis of tort and its role in a modern society. In this respect the 'philosophy' of tort can be used to clarify those objectives and suggest means by which they may be achieved.[27] There are two main schools of thought. The economic view,

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[27] See Owen, D.G. (1995), "Why Philosophy Matters to Tort Law", in D.G. Owen (ed.), *Philosophical Foundations of Tort Law*, Clarendon Press, at pp. 13-14: "The subject of tort might fairly be said to

of which one of the main proponents in recent years has been Posner,[28] proposes that the purpose of tort should be to ensure an efficient allocation of resources. The more traditional view, which finds favour amongst most legal scholars, is that tort is founded upon justice and the need to restore the *status quo ante* where one party has been wronged by another.

The economic view argues that the courts should bear in mind the respective economic values of competing land uses when, for example, deciding whether to grant an injunction in favour of a person who has suffered a nuisance. This approach is considered but ultimately rejected as a sound basis for a public interest model of tort. The main problem with the economic analysis that it takes a very narrow view of the value of natural resources. The value of a resource is priced in monetary terms in accordance with economic criteria; this includes the value of the potential use of the property. The monetary value of commercial uses is always likely to outweigh the value of conservatory uses. The ecological value of a natural resource cannot be quantified in this manner, indeed, there is some evidence to suggest that even Posner is coming to this view. The ecological value of conserving natural resources must be made in accordance with wider social and political preferences.

Thus, the chapter goes on to consider the extent to which a public interest model of tort can be founded upon notions of justice. At this point a distinction between the concepts of 'corrective' and 'distributive' justice has to be considered.[29] Whereas corrective justice focuses entirely on the respective rights of the individuals in a dispute, distributive justice admits societal preferences regarding who should bear the loss. The proponents of the latter approach argue that tort is now inextricably linked with distributional issues. They point to the fact that strict liability and insurance are realities which affect the decision of the court to apportion liability on a certain party.[30] However, a system based wholly upon distributive principles is problematic in that it operates as a blunt means of loss allocation which is not related in any way to the conduct of the defendant.[31] There is a place for such systems in certain

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involve the nature and extent of an actor's legal responsibility to a victim for causing harm. If so, then one important preliminary question for tort law must be how responsibility for causing harm should be defined and limited. Should it rest upon the actor's moral desert, limited by notions of blameworthiness for acting upon choices that are by some measures bad, as viewed ex ante? Or should the concept of tort responsibility be widened to embrace the harmful consequences of the actor's conduct, including victim needs ex post?"

[28] See, for example, Posner, R.A. (1986), *Economic Analysis of Law*, Little, Brown & Co.

[29] See, for example, Englard, I. (1993), *The Philosophy of Tort Law*, Dartmouth Publishing Co. Ltd, ch. 2.

[30] Ibid.

[31] An example of such a system would include a no fault social security fund financed by general taxation

circumstances, however, they should not entirely replace tort.[32] One of the potential strengths of tort is that, by defining a standard of conduct to which the defendant should adhere, the system provides an incentive to reduce the costs of his activity. However, a system which is entirely founded on corrective principles is also problematic in that it requires the plaintiff to establish fault and imposes a heavy burden of proof on causation. Furthermore, a corrective model of tort examines the dispute purely from the perspective of the individuals concerned and precludes consideration of public interest issues such as the desirability of environmental protection. Thus, the chapter concludes that the modern law of tort should seek to attain a balance between corrective and distributive justice. Furthermore, it is argued that there is a philosophical basis which can support such an approach.[33]

4.2.2 The Role of Tort in an Environmental Context

The specific role of tort as a means of environmental protection is considered in the light of this philosophical background. The fact that a public interest model of tort is possible in conceptual terms does not mean that a specialist environmental liability regime would necessarily augment traditional regulatory responses. Thus it is necessary to identify a gap in the enforcement of environmental law which tort may be capable of reducing.

The main potential benefit of tort is that it affords private individuals and bodies a means of participating in the enforcement of environmental standards. An individual, who has been affected by pollution, may be motivated to pursue the matter in cases where a regulatory authority has chosen not to act. In this sense tort has the potential to increase the penetration of environmental law.

Related to this issue of private enforcement is the matter of whether tort may provide an effective incentive for risk management. When considering incentives there is a temptation to make direct comparisons with the criminal law. On the face of it, criminal penalties may appear to provide a superior incentive for risk management in that they seek to punish breaches of regulations. Provided such regulations are adequately enforced, the stigma and adverse publicity associated with a prosecution

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or a special tax on a specific sector. The New Zealand Government introduced a scheme of this type under the Accident Compensation Act 1972, as amended Accident Compensation Act 1982.

[32] A case in point concerns contaminated land. This matter is discussed in ch. 4.

[33] A particularly elegant explanation, which shall be discussed in ch. 4 is provided by Englard, I. (1995) "The Idea of Complementarity as a Philosophical Basis for Pluralism in Tort Law". In D.G. Owen (ed.) *Philosophical Foundations of Tort.* Oxford/Clarendon Press

may pray on the corporate mind of image conscious enterprises.[34] Furthermore, directors and senior officers, who may incur personal criminal liability[35], have a personal interest in ensuring that regulations are observed. This may lead to the conclusion that an effective tort regime would not add to the incentives which are already provided by regulatory penalties. However, direct comparisons of this type are misleading. Provided that it is accompanied by effective remedies, the prospect of civil liability may provide equally effective incentives for risk management, although, the manner in which they influence the corporate mind is entirely different. Rather than punishing a breach of duty, tort may require the polluter to pay for the actual costs of clean up. Furthermore, by the use of injunctive relief, it can be used prospectively to prevent the continuance of pollution. This provides an *economic* incentive for risk management. Rather than appealing to the conscience of the organization, tort converts pollution into a cost of production which the business will seek to reduce much like any other cost. Thus, in cold business terms, tort has the capacity to make it more expensive not to take abatement measures. By providing a different form of incentive, tort has the potential to augment regulatory penalties in pursuit of the common goal of environmental protection.

The possible use of tort as a means of privately enforcing environmental standards is linked with a wider theme, namely, the possible development of a concept of 'environmental rights'. This necessitates consideration of property law and the extent to which a private interest in land entitles one to disregard the effects of that land use on others. To a large extent, the environment has become inextricably linked with the private interests which vest in it. Thus, unless an individual suffers personal injury or property damage, the right to be free from noxious vapours, for example, is contingent upon that individual having a sufficient interest in property. Certain academics have argued in favour of widening the concept of property so as to afford private individuals a form of equitable proprietary interest in the 'goods of life'[36]; this can include the environment.[37] Such an approach would separate the environment from the private interests which vest in it and designate it as a form of public space in which the public are afforded an interest. Chapter 4 considers whether a civil liability regime could provide the practical means of enforcing that interest.

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[34] For an analysis of the efficacy of criminal penalties see, for example, Cohen, M.A. (1992), "Criminal Penalties", in T.H. Tietenberg (ed.), *Innovation in Environmental Policy*, Edward Elgar.
[35] See, for example, section 157 Environmental Protection Act 1990.
[36] Reich, C.A., "The New Property", (1964) 73(5) *Yale Law Journal* 733; Macpherson, C.B., "Human Rights as Property Rights", (1977) 24 *Dissent* 72
[37] See Gray, K., "Equitable Property", (1994) *Current Legal Problems* 157.

4.2.3 The Effect of Insurance on the Role of Tort

The role of tort can not be considered in isolation from the effect of insurance. As noted above, the growth in insurance since the nineteenth century has increased the distributional component in tort in that it has a bearing on which party is in the best position to bear the loss. Although few judges have used the existence of insurance as a specific ground for allocating the loss to the insured party[38], insurance has undoubtedly influenced the manner in which tort has developed.

Thus the decision to proceed with a specialist environmental liability regime must take into account the insurance implications of extending liability in this manner. Environmental impairment has caused particular difficulties for insurers due to the fact that it is difficult to calculate risk. A polluting incident may cause long term contamination, the full effects of which, may not manifest themselves for several years (long tail risks). This may expose an insurer to costs which are far in excess of those contemplated when the policy was originally drafted. In the past, this has led insurers to withdraw cover for pollution, however, the industry has begun to develop policies capable of absorbing this type of liability. As a result, the chapter concludes with an assessment of the insurability of environmental damage and how this might affect the development of tort.

It is also considered whether the availability of insurance would undermine the incentives provided by tort to reduce the risks of activities by absolving polluters from financial responsibility.

4.3 EU Initiatives

As stated above, the current debate regarding the use of tort as a means of environmental protection has been generated by various EU and Council of Europe initiatives. Although the EU has been active in the field of environmental protection since the publication of its First Action Programme in 1973[39], it is only in the last ten years that it has contemplated intervention in the field of civil liability for environmental damage.

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38 An exception is Lord Denning who sometimes expressly referred to the existence of insurance as being a material consideration when apportioning liability. See, for example *Nettleship* v. *Weston* [1971] 2 Q.B. 691.

39 OJ No C 112/1 (1973)

In 1989[40] a draft directive on civil liability for damage caused by waste was introduced; this was subsequently amended in 1991[41]. However, these proposals were superseded by the publication of a Green Paper[42] which discussed the merits of a general environmental liability regime covering a wider range of activities. This was followed by consultations with industry and environmental interest groups. At the time of writing the publication of a White Paper on the subject is imminent. In 1993 the Council of Europe introduced its 'Convention on Civil Liability for Damage resulting from Activities Dangerous to the Environment' (the *Lugano* Convention). Furthermore, certain Member States of the EU have already introduced their own specialist environmental liability regimes.

Chapter 5 considers these initiatives with a view to determining the rationale for EU intervention in this field and how this may relate to the theoretical perspectives discussed in chapter 4. The most significant finding is that there is increasing evidence to support the view that the EU views civil liability as a possible means of underpinning and enforcing environmental standards. This continues the discussion in chapter 4 regarding the possible role of tort as a means of private enforcement of environmental interests. In this respect it is considered whether civil liability may provide the means of concretizing a nascent concept of 'environmental rights' which is beginning to emerge in EU environmental policy.

4.4 Specific Proposals for Increasing the Role of Tort as a Means of Environmental Protection.

Chapter 6 considers specific proposals designed to harness tort as a means of environmental protection. The chapter has two main objectives which are dealt with simultaneously. The first objective is to consider whether these proposals are consistent with the philosophical rationale for an environmental application of tort as discussed in chapter 4. The second objective is to consider whether the proposals provide practical solutions to the problems of establishing civil liability discussed in chapter 3.

Certain EU Member States have already implemented civil liability regimes for environmental damage. Clearly, these systems provide a rich source of experience

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40 OJ No C 251/4 (1989)
41 OJ No C 192/6 (1992)
42 *Communication from the Commission to the Council and Parliament on Environmental Liability*, COM(93) 47 final.

from which the EU may draw in drafting its own legislation. EU and Council of Europe proposals are contrasted with principles which have already been adopted under these regimes. This invites a comparative approach in analysing the solutions adopted under these regimes and certain jurisdictions outside the EU.

Comparative law[43] serves a number of purposes in this context. Zweigert and Kötz[44] argue that the primary of function comparative law is knowledge. The process of attempting to find a legal solution to a particular problem is a scientific endeavour. When viewed in these terms it appears folly to ignore solutions adopted in other jurisdictions simply because they are foreign; as Zweigert and Kötz point out, "no study deserves the name of a science if it limits itself to phenomena arising within national boundaries."[45] Thus:

> "If one accepts that legal science includes not only the techniques of interpreting the texts, principles, rules, and standards of a national system, but also the discovery of models for preventing or resolving social conflicts, then it is clear that the method of comparative law can provide a much richer range of model solutions than a legal science devoted to a single nation, simply because the different systems of the world can offer a greater variety of solutions than could be thought up in a lifetime by even the most imaginative jurist who was corralled in his own system. Comparative law is an 'école de vérite' which extends and enriches the 'supply of solutions' and offers the scholar of critical capacity the opportunity of finding the 'better solution' for his time and place."[46]

As such comparative law provides an invaluable tool for legislators when attempting to formulate a legal response to a particular problem.[47] Indeed, the English courts are now beginning to look beyond the common law to find solutions to new problems.[48]

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[43] Comparative law must be distinguished from 'private international law' (or 'conflict of laws'). The latter applies in international disputes and is used to determine which of several systems should be used to resolve the matter. Comparative law merely compares those systems without any specific dispute in mind; the object is a purely scientific exercise designed to contrast approaches to solving a particular problem. See Zweigert K., and Kötz, H. (1987), *An Introduction to Comparative Law* (2nd ed.), (translated by T. Weir), Clarendon Press, at p. 6.

[44] Ibid., at p. 15.

[45] Ibid., at p. 14.

[46] Ibid., at p. 15.

[47] Ibid., at pp. 15-17.

[48] For example in *Hunter* v. *Canary Wharf Ltd.* [1997] W.L.R. 684, one of the issues which fell to be determined concerned whether an interference with television reception was a sufficiently serious inconvenience to constitute a nuisance. Lord Goff, at p. 690, referred to a German decision (*G.* v. *City of Hamburg*, 21 October 1983; Decisions of the Federal Supreme Court in Civil Matters, vol 88, p. 344) in which such an interference was deemed actionable.

Such an approach is adopted in chapter 6. For example, when considering means of easing the burden of proof on causation, the solution adopted under the German Environmental Liability Act 1991 (*UmweltHG*) is examined. As regards the issue of affording standing to environmental pressure groups to pursue actions in tort, developments in the Netherlands are investigated.

Chapter 6 draws together the themes which emerge in the preceding chapters. Means of increasing the role of tort are considered in the light of the philosophical perspectives set out in chapter 4 and the objectives of the EU identified in chapter 5.

4.5 Concluding Chapter

Chapter 7 consolidates the issues and ideas developed above and draws conclusions regarding whether it is possible to devise a workable model of tort for use as a means of environmental protection. The chapter closes with consideration of the wider implications of a civil liability regime, namely, the extent to which it may serve to promote the idea of the environment as a 'public good' capable of protection through the institutions of private law.

5. CONCLUSION

The subject of civil liability for environmental damage is fascinating, albeit extremely complex, due to the fact that it raises a multitude of issues and several seemingly disparate areas of law. From the above it will be apparent that these include the philosophy of law, economics of law, property law, insurance law, public law, comparative law, and EU law. To some extent this has led to the compartmentalization of the debate and has, perhaps, made it difficult to 'see the wood for the trees'. The aim of this research has been to draw these disparate areas together and to ascertain how they might interrelate so as to provide a solid foundation for an environmental application of tort. This is the first time that such an exercise has been attempted and in this respect it is hoped that the work will make a useful contribution to the debate.

Chapter 2

Overview of Main Torts of Relevance in an Environmental Context

1. INTRODUCTION

The purpose of this chapter is to identify the main torts which are relevant in an environmental context and to ascertain in what circumstances a plaintiff may establish a *prima facie* cause of action. Procedural difficulties in bringing such claims are dealt with in the next chapter.

Save for comparatively recent torts, such as breach of statutory duty, English common law derives from the medieval *forms of action*[1]. These were early procedures which could be invoked by a plaintiff in order to restore some right of which he had been wrongfully disseised. Each procedure was instigated by a different writ according to the nature of dispute. Use of an incorrect procedure would prove fatal to a claim; the common law emerged as the substantives rules for determining which writ should be used.[2] The forms of action have long since been dissolved[3], however, to some extent, the common law remains moulded in their image like a "petrified forest"[4]. The most obvious legacy of the forms of action is that direct incursions of tangible matter are actionable under trespass whereas indirect incursions by intangible phenomena, such as noise or fumes, are actionable under nuisance.

2. TRESPASS TO LAND

2.1 Type of harm

Trespass has its origins in a *form of action* designed to provide redress for forcible and direct incursions upon a persons property, namely, the writ of trespass *vi et armis* (with force and arms)[5]. Originally, the writ also encompassed aggravating incidents which were often associated with a trespass to land, namely, assaults on the person and apportation of chattels. During the course of the thirteenth century these ancillary incidents evolved into distinct heads of trespass which became actionable, in their own right, irrespective of whether they had been associated with a trespass to land[6].

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[1] See Maitland, F.W., *The Forms of Action at Common Law: A Course of Lectures* (1936 edn.), in A.H. Clayton and W.J. Whittaker (eds.), Cambridge University Press.
[2] "So great is the ascendancy of the law of actions in the infancy of the courts of justice, that substantive law has at first the look of being gradually secreted in the interstices of procedure.", Maine, *Early Law and Custom*, at p. 389.
[3] The Common Law Procedure Act 1852, superseded by the Judicature Act 1872, replaced the old writs with a single writ which is applicable in all circumstances.
[4] Hepple and Williams (1976), *Foundations of the Law of Tort*, Butterworths, at p. 33.
[5] See Fifoot (1949), *History and Sources of the Common Law*, Stevens and Sons Ltd., chapter 3.
[6] In *Lombe* v. *Clopton* (1276) S.S. Vol. 55, p. 30, Lombe successfully brought a writ in trespass against five defendants who seriously assaulted him at the fair of St. Ives although the assault was not carried out in connection with any trespass to land.

Such incursions were treated seriously by the courts due to their inflammatory nature. The need to establish force was eventually dispensed with,[7] however, it is still necessary to show that an entry upon land was direct in order to found an action in trespass. This denotes a physical incursion be it in person[8], by wandering animals[9], or the placing of some object on land[10]. It is also necessary to show that the incursion was the inevitable result of the defendant's actions whether such actions constitute an immediate and deliberate entry, or, the setting in motion of a chain of events which must inevitably lead to an unauthorized entry upon the plaintiff's property. Thus, a strong and direct causal link must be established between the plaintiff's actions and the trespass. It is this requirement which limits the use of trespass in an environmental context. Many forms of pollution lack a substantial physical presence and take the form of fumes, smoke, heat or noise. In addition such forms of pollution are subject to the effect of wind and currents; therefore, any intrusion upon neighbouring property cannot be said to be the inevitable consequence of the defendant's conduct. These limitations can be demonstrated by reference to the few cases in the area.

In *Jones* v. *Llanrwst Urban District Council*[11], the defendants were responsible for a sewerage outfall which discharged raw sewage into a stream which flowed past fields owned by the plaintiff. This resulted in the accumulation of faecal matter on the banks of the stream abutting the fields. It was held that the plaintiff could sustain an action in trespass. Parker J. stated:

> " I am of the opinion that anyone who turns faecal matter or allows faecal matter collected by him or under his control to escape into a river in such a manner or under such conditions that it is carried, whether by current or the wind, on to his neighbours land is guilty of a trespass".[12]

A more restrictive interpretation of direct entry was applied by the Court of Appeal in *Southport Corporation* v. *Esso Petroleum Co. Ltd.*[13] In this case, a small tanker, the *S.S. Inverpool*, had been attempting to negotiate a narrow channel, in heavy seas, on

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[7] In two anonymous cases reported in 32 and 33 Ed. 1 (R.S.) at pp. 258-9 Chief Justice Bereford declared that the words were *vi et armis* were superfluous and mere formalities. In the first case the jury had originally found in favour of the defendants on the grounds that although they had taken and imprisoned the plaintiff, they had not beaten or wounded him. In the second case the jury found that although the defendants had entered upon the plaintiff's land and chopped down trees, they had not done so with force and arms. See Fifoot, op. cit., ch. 3.

[8] See, for example, *Davis* v. *Lisle* [1939] 3 All E.R. 213.

[9] See, for example, *League Against Cruel Sports* v. *Scott* [1986] Q.B. 240.

[10] See, for example, *Holmes* v. *Wilson* (1839) 10 A. & E. 503.

[11] [1908-1910] All E.R. 922.

[12] Ibid. at p. 926 E-F.

[13] [1954] 2 Q.B. 182.

her approach to Preston. Unbeknown to the master and crew, the steering mechanism had failed. At one point the vessel veered sharply off course and grounded across a revetment wall. This placed her in danger of breaking her back and put the lives of the crew in jeopardy. No attempt could be made to reverse the vessel as the propeller had become fouled. The master decided that the only option was to discharge some of the cargo in order to lighten the vessel thereby preventing her from being broken across the wall. The discharged oil was carried by the action of the wind and tides onto foreshore owned by Southport Corporation who claimed in public and private nuisance, trespass and negligence. As regards trespass, Denning L.J. stated that:

> "In order to support an action for trespass to land the act done by the defendant must be a physical act done by him directly onto the plaintiff's land".[14]

He then went onto to state that this distinguished trespass from the old action of *case*[15] where the interference was the consequential result of an activity carried out on the defendant's land. The distinction was set out in the *Prior of Southwark's* case.[16]

Applying this to the facts of the present case, Denning L.J. was of the opinion that the discharge was remote from the foreshore and, had it not been for the action of the wind and tide, the oil may never have come ashore at that location. Thus the pollution was consequential as opposed to the direct result of the master's actions:

> "Applying this distinction, I am clearly of opinion that the Southport Corporation cannot here sue in trespass. This discharge of oil was not done directly onto their foreshore, but outside in the estuary. It was carried by the tide on to their land, but that was only consequential, not direct. Trespass, therefore does not lie".[17]

On appeal this approach was approved by the House of Lords[18]. The assertion by Parker J. in *Jones* v. *Llanwrst Urban District Council* that the action of wind and

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[14] Ibid. at p. 195.
[15] The *form of action* from which negligence derives; this is explained in more detail below.
[16] (1498) Y.B. 13 Hen. 7, f. 26, pl. 4. In this case the defendant was a glover and had dug a lime pit for the purpose of preserving calf skins. The pit polluted a nearby stream which led to the pollution of the plaintiff's property. It was held that if the lime pit had been dug in the plaintiff's soil, trespass would be the appropriate form of action. If, however, the pit had been dug on the defendant's land, case would have been the appropriate form of action.
[17] [1954] 2 Q.B. 182, at p. 196.
[18] *Esso Petroleum Co. Ltd.* v. *Southport Corporation Ltd.* [1956] A.C. 218, at p. 242, "Certainly I do not regard such decisions as *Jones* v. *Llanwrst* and *Smith* v. *Great Western Railway Co.* as having any real bearing on the circumstances of this case in which the oil was jettisoned at sea, committed to the action of wind and wave, with no certainty, so far as appears, how, when or under what conditions it

currents would not break the direct link between the original emission and the trespass was not accepted. Parker J.'s comments were obiter in that the intervention of such factors had not been an issue in this case. The fact that the sewage had been directly discharged into a narrow stream running past the plaintiff's property meant that it was inevitable that some of the solid matter would accumulate on the banks of the stream.

2.2 Trespass and Fault

Trespass to chattels and trespass to the person were assimilated with negligence[19] as they overlapped in most areas where they were applicable[20]; thus it is necessary to establish fault on the part of the defendant in respect of trespass claims for personal injuries[21] and damage to personal property[22]. Liability for trespass to land remains strict in that the purpose of the tort is to protect ones right to exclusive possession[23]. However, liability cannot be described as absolute[24] since a person will have a defence if the incursion was involuntary[25] or if he acted out of necessity[26].

3. NUISANCE

3.1 Type of harm

Nuisance derives from a *form of action* known as the *assize of nuisance* and was designed to restore ancillary rights, associated with land ownership, without which the freehold would be sterile[27]. As Professor Newark explains, this encompassed interference with rights derived from agreements (*ab homine*) , such as easements and profits, and natural rights which were conferred by law (*a jure*)[28]. The latter category included the right to wholesome air and unpolluted water. The origins of these rights

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might come to shore." per Lord Radcliffe.

19 The essence of negligence is discussed below.

20 A particularly pronounced overlap occurred in cases involving accidents on the highway and collisions at sea. At one time the courts had to draw fine distinctions between acts which were wilful and direct and acts which were unintentional. The former sounded in trespass, whereas, the latter sounded in *Case* (or later negligence). See Prichard, M.J., "Trespass, Case and The Rule in Williams v. Holland", [1964] *Cambridge Law Journal* 234.

21 *Stanley* v. *Powell* [1891] 1 Q.B. 86.

22 *N.C.B.* v. *Evans* [1951] 2 All E.R. 310.

23 Thus in *League Against Cruel Sports* v. *Scott* [1986] 1 Q.B. 240 the plaintiffs obtained a declaration that the straying of hounds, taking part in a stag hunt, into sanctuaries which they operated constituted a trespass and an injunction to prevent future incursions.

24 See Winfield, P.H., "The Myth of Absolute Liability", (1926) 42 *Law Quarterly Review* 37.

25 *Smith* v. *Stone* (1647) Style 65.

26 *Handcock* v. *Baker* (1800) 2 Bos & P 260.

27 See Fifoot, op. cit., ch. 1.

28 Newark, F.H., "The Boundaries of Nuisance", [1949] *Law Quarterly Review* 480, at p. 482.

are lost in custom and appear to have been recognized in the earliest days of common law. In *Aldred's Case*, Wray C.J. equated the right to wholesome air with the Biblical right to light[29]. Interference with these rights was actionable on the grounds that it impaired the ability of the land holder to use his property in the ordinary way. This constituted a total or partial disseisin of a right associated with land-holding. In Stephen's Commentaries it was stated:

> "If a person keeps his hogs or other noisome animals so near the house of another, previously built and inhabited, that the stench of them incommodes him, and makes the air unwholesome, this is a nuisance, as it tends to deprive him of the use and benefit of his house".[30]

In modern parlance this would be termed an interference with the right to use and enjoyment of one's property although the meaning is essentially the same. *Forms of action* served to restore such rights to the plaintiff; these rights became generic and were eventually hardened into the *sic utere tuo ut alienum non laedus* maxim (so use your property as not to injure your neighbour's). The types of land use amounting to rights, which may be protected from interference, do not comprise a closed category and may be added to in accordance with changing social conditions and expectations.[31]

Nuisance actions resulting from pollution considerably pre-date the onset of the industrial revolution. For example, actions were brought in respect of corruption of the wholesome air resulting from the emissions of lime kilns[32], dye houses[33], tallow furnaces[34], and smiths' forges[35]. As regards the torts to land, nuisance has continued to be more widely used than trespass, in this context, in that most forms of pollution consist of vapours, gases, heat, particles or diffuse chemicals. These elements lack the physical presence needed for a trespass.

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29 (1611) 9 Coke Rep. f. 57b. Wray C.J. quoted Solomom in Ecclesiast. 11. 7, "*Dulce lumen est et delectable oculis videre solem...*" See Fifoot, op. cit., at p. 101.

30 4th edn., vol. 3, pp. 491, 492.

31 For example, in *Bridlington Relay Ltd* v. *Yorkshire Electricity Board* [1965] Ch. 436, Buckley J. did not consider that the ability to receive television signals was of sufficient importance to justify an action in nuisance in respect of any activity which interfered with reception. However, in *Hunter* v. *Canary Wharf Ltd* [1997] 2 W.L.R. 684, at p. 688F-G, Lord Goff stated that, for many people, television now "transcends the function of mere entertainment" and that reception is now of sufficient importance to warrant protection at common law.

32 *Aldred's Case*, *supra*.

33 *Jones* v. *Powell*, Hutton, 136, Palmer, 539

34 *Morley* v. *Pragnell*, Cro. Car. 510.

35 *Bradley* v. *Gill*, 1Lutw. 69

It is also important to remember that the essence of private nuisance is that the activity must emanate from a neighbouring parcel of land. From its earliest origins the purpose of nuisance has been to settle disputes between neighbours. This point was reiterated in the case of *Southport Corporation* v. *Esso Petroleum* in which Denning L.J. stated that no action could be founded in private nuisance because the discharge of oil resulted from the use of a ship at sea and not neighbouring land.[36]

3.2 The Locality Doctrine

Prior to the industrial revolution, courts were clearly of the opinion that any adverse interference with natural rights would give rise to an action in nuisance; this approach was characterised by the maxim *sic utere tuo ut alienum non laedas*, referred to above. After the industrial revolution, the courts were faced with the issue of whether it was proper to continue asserting natural rights in such an uncompromising manner[37].

The industrial revolution resulted in new challenges for the common law in that the creation of large industrial towns created a conflict between industrial and conservatory land uses. The common law judges were undoubtedly aware of the economic arguments in favour of allowing industrial at the expense of conservatory uses of land. The courts did not operate in a vacuum and were aware that rigidly asserting natural rights in the face of large scale developments would have ramifications for the new industrial economy. As McLaren states:

> "An appreciation of political and social philosophy and economics was part of the 'intellectual baggage' of educated people of that age, including the judges".[38]

In *St. Helens Smelting* v. *Tipping*[39] the House of Lords set about arriving at a solution which would facilitate the economic benefits of industrialization yet limit externalities to acceptable levels. The nuisance in this case was caused by the defendant's copper

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[36] [1954] 2 Q.B. 182, at p. 196. Devlin J., had stated, obiter, that it was not necessary to show that the pollution stemmed from land owned or occupied by the defendant. Although Lord Denning clearly rejected this view, it has been followed in Canada. See, for example, *Bridges Bros. Ltd.* v. *Forest Protection* (1976) 72 D.L.R. (3d) 335., which concerned crop damage caused by drifting insecticide sprayed by an aircraft, "...it matters not whether there is any relationship between an aircraft which a nuisance emanates from and the owner of the land beneath the air space where the nuisance originates. A nuisance is created by the discharge of a deleterious substance from an aircraft if that substance is wrongfully caused or allowed to escape on to the land of another."

[37] See Mclaren, J.P.S., "Nuisance Law and the Industrial Revolution: Some Lessons from Social History", (1983) *Oxford Journal of Legal Studies* 155, at pp. 169-190.

[38] Ibid., at p. 192.

[39] (1865) 11 H.L.C. 642.

smelting plant, fumes from which killed off trees in the plaintiff's orchard. It was held that for an activity to result in an actionable nuisance, it must *visibly* diminish the value of the property and the use and enjoyment of it[40]. In ascertaining whether the utility of the property had been visibly diminished, regard must be had to all the circumstances of the case including the nature of the locality and its utility to the community as a whole[41]. This shows that it was recognised that the character of large areas of land had been changed forever with the result that there was no alternative but to re-define natural rights in accordance with changing circumstances. However, the traditional approach was not entirely abandoned; Lord Westbury added an important proviso to the effect that tangible damage could never be reasonable and would continue to be actionable *per se*[42].

An important recent development is that a planning consent has been held to alter the character of the neighbourhood[43]. The fact that the reasonableness of activities may now be judged by reference to "the aspirations of planners"[44] rather than the "situation on the ground"[45] represents a radical departure from previous authority[46]. The motivations of the courts in reaching this conclusion will be examined in chapter 4 in the context of the role of tort.

3.3 Nuisance and Fault

One of the most complex issues in nuisance concerns the extent to which it is necessary to establish culpability on the part of the defendant. At one time there was no doubt that private nuisance was of strict liability in that it was concerned with the protection of an interest in land, namely, the right to the undisturbed use and enjoyment of one's property. The matter is now less certain[47], the reasons for this state of affairs have been examined by Professor Newark[48].

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[40] Ibid., at pp. 650-653.
[41] Ibid.
[42] Ibid., per Lord Westbury at p. 651-652.
[43] *Gillingham Borough Council* v. *Medway (Chatam) Dock Co Ltd* [1992] 3 All E.R. 923.
[44] Waite, A., "The Gillingham Case: the Abolition of Nuisance by Planning Controls?", (1992) *4 Land Management and Environmental Law Report* 119.
[45] Ibid.
[46] *R.* v. *Exeter City Council ex parte J.L. Thomas & Co Ltd* [1990] 1 All E.R. 413.
[47] The uncertainty which emerged is demonstrated by two cases which were decided at a similar time. In *Hole* v. *Barlow* (1858) 4 CB (NS) 334; 140 ER 1113, Willes J. appeared to equate nuisance with negligence where he stated that, apart from consideration of nature of the locality, it was legitimate to ask whether the plant had been *operated* in a reasonable manner. However in *Stockport Waterworks* v. *Potter* (1861) 7 H & N 160; 158 ER 433, Martin B. doubted whether reasonable conduct could have any bearing on liability. See Mclaren (1983), op. cit., at pp. 174-175.
[48] Op. cit.

Public nuisance was created by analogy with private nuisance in that the blocking of a public highway was seen as analogous to the blocking of an easement across a private tenement. As the matter affected a class of His Majesty's subjects the act was criminalized, nevertheless, it was accepted that private and public nuisance were unrelated. However, in an anonymous decision of 1535[49] Baldwin C.J. linked the two, mistakenly according to Professor Newark, by stating that the only reason why a private individual could not bring a private action in respect of a public nuisance was that to do so would result in a "multitude of claims". Nevertheless, he went on to state that any individual who suffered individual loss in excess of the general inconvenience suffered by the population as a whole would be able to recover damages by reason of that "special hurt". This assertion eventually led to a proliferation of private nuisance claims in respect of loss caused by obstructions on the highway. Consequently, a clear overlap between private nuisance actions (brought in respect of public nuisances) and negligence emerged[50] with the result that the courts introduced the need to establish fault in respect of private nuisance claims brought pursuant to public nuisances[51]. Henceforth, defendants were only expected to guard against nuisances which were reasonably foreseeable.

Despite the assimilation of private and public nuisance in clear cases of overlap, private nuisance (or 'nuisance proper' as Professor Newark terms it) remained untainted by notions of fault based liability in its traditional sphere of operation. This was until the judgment of the House of Lords in the *Wagon Mound (No. 2)*[52] the facts of which are too well known to require repetition here. Lord Reid cited the highways cases in which public nuisance had been assimilated with negligence as authority for the proposition that fault was an established component of nuisance[53]. However, he went on to state that, although nuisance had grown to encompass a wide range of activities, it could not be right to discriminate between different types of nuisance so as to make fault an issue in certain cases but not in others[54]. Lord Reid's reasoning can be criticized on this point in that it is in fact logical to draw such a distinction if one

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[49] *Anon*, Y.B. 27 Hen. 6, Trin. pl. 10

[50] In more recent times this has given rise to difficult moot points. For, example, the courts have been faced with the issue of whether a poorly parked car should result in an action in nuisance, on the grounds that it is an obstruction, or negligence on the grounds that it has been parked carelessly. See *Ware* v. *Garston Haulage Co.* [1944] K.B. 30 and *Maitland* v. *Raisbek* [1944] 1 K.B. 689.

[51] See, for example, *Sharp* v. *Powell* (1872) L.R. 7 C.P. 253, where the defendant had caused water to be deposited on the highway which later froze and formed sheet ice; it was held, "the defendant could not reasonably have been expected to foresee that the water would accumulate and freeze at the spot where the accident happened." per Bovill C.J.

[52] *Overseas Tankship (U.K.) Ltd.* v. *The Miller Steamship Co. Pty. (The Wagon Mound) (No.2)* [1967] A.C. 617.

[53] Ibid. 637D-E.

[54] Ibid., at p. 640B-D.

accepts the differing origins of public and private nuisance. Instead, his Lordship attempted to maintain some distinction between nuisance and negligence by stating that fault in nuisance has a broader meaning than the specific and narrower meaning of the tort of negligence[55]. This left the way open for applying a stricter standard of liability in other cases since negligence entails establishing more than foreseeability. Although a risk of a certain type of damage may be foreseeable, in negligence, it is still necessary to show that all reasonable steps were taken to reduce the risk of the damage occurring to acceptable levels. In Lord Reid's formulation of fault in nuisance he stated:

> "the fault is in failing to abate the nuisance the existence of which the defendant is or ought to be aware as likely to cause damage to his neighbour."[56]

This suggests that, where the harm is foreseeable, liability will automatically follow if the nuisance is not abated. No mention is made of a need to establish that the defendant did not take reasonable steps to abate the nuisance.

The *Wagon Mound (No. 2)* decision is particularly important from an environmental perspective in that the House of Lords chose to apply it in *Cambridge Water* v. *Eastern Counties Leather*[57]. This is now one of the most important decisions as regards the common law and the environment.

The plaintiff water company began abstracting drinking water from a bore-hole at Sawston Mill in 1976. In 1980 the Council of the European Community issued a Directive on water quality (80/778/EEC) which required Member States to ensure that levels of perchloroethene (PCE) were reduced by 1985. As a result, water undertakers were required to commence monitoring for this substance. Cambridge Water discovered that levels of PCE in drinking water abstracted from its bore-hole at Sawston Mill were far in excess of both the guide limit set by the EC and the actual limit set by the department of the Environment. As a result Cambridge Water was unable to continue abstracting water at Sawston Mill and was required to re-locate its pumping station at a cost of £ 1 million. The source of the contamination was traced to a tannery operated by Eastern Counties Leather where PCE had been used in the de-greasing of pelts. Over time, spillages of the substance permeated the porous layers

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55 Ibid., at p. 639C-D.
56 Ibid., at p. 639F.
57 [1994] 2 A.C. 264.

of chalk beneath the works and contaminated the subterranean water source; it was then carried down stream to the plaintiff's bore-hole.

The Court of Appeal did not feel bound by Lord Reid's judgment in the *Wagon Mound* to find that foreseeability was an essential ingredient of nuisance. Mann L.J., citing Lord Wilberforce in *Goldman* v. *Hargreaves*[58], emphasised the point that the tort of nuisance is "uncertain in its boundaries"[59] and that negligence only plays a part in some cases. On the basis of the decision in *Ballard* v. *Tomlinson*[60], which also concerned contamination of an underground water source, Mann L.J. concluded that the present case was one in which liability was strict.[61]

On appeal to the House of Lords, Lord Goff rejected the claim in nuisance and, contrary to the Court of Appeal, considered that Lord Reid's judgment in the *Wagon Mound* was decisive on the issue of foreseeability in nuisance:

> "It is widely accepted that this conclusion , although not essential to the decision of the particular case, has nevertheless settled the law, to the effect that foreseeability of harm is indeed a pre-requisite of the recovery of damages in private nuisance, as in the case of public nuisance".[62]

In reaching this conclusion the House of Lords was heavily influenced by policy considerations. Lord Goff noted that pools of PCE were still present under Eastern Counties Leather's works and were continuing to cause contamination[63]. Thus, now the hazardous nature of PCE has been established, applying strict liability without any foreseeability requirement would render ECL liable for pollution which was now beyond their control and was caused prior to the identification of PCE as a hazardous substance. This would amount to retroactive liability for 'historic pollution'. It seems that, had his Lordship been unable to find authority for holding that foreseeability is a prerequisite of liability, he would have declined to hold ECL liable on policy grounds. This is confirmed by his Lordship's closing comments on the issue of fault in nuisance:

> "I wish to add that the present case may be regarded as one of what is nowadays called historic pollution, in the sense that the relevant

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58 [1967] 1 A.C. 645, at p. 657.
59 Ibid.
60 (1885) 29 Ch. D. 115.
61 [1994] 2 A.C. 264, at p. 275F-G.
62 Ibid., at p. 301C.
63 Ibid., at pp. 306H-307A-B.

occurrence (the seepage of PCE through the floor of ECL's premises) took place before the relevant legislation came into force; and it appears that , under the current philosophy, it is not envisaged that statutory liability should be imposed for historic pollution (see, e.g. the Council of Europe's Draft Convention on Civil Liability for Damage resulting from Activities Dangerous to the environment (Strasbourg 26 January 1993) article 5.1, and paragraph 48 of the Explanatory Report). If so, it would be strange if liability for such pollution were to arise under a principle of common law."[64]

The issue of whether the courts and the legislature are right to exercise such caution regarding the issue of civil liability for historic pollution will be returned to in later chapters.

Nevertheless, Lord Goff emphasised the fact that the standard of liability in nuisance still differs from the standard of liability in negligence:

> "It is still the law that the fact that the defendant has taken all reasonable care will not of itself exonerate him from liability, the relevant control mechanism being found in the concept of reasonable user."[65]

This suggests that, once it has been established that it was foreseeable that an activity would give rise to a nuisance, it is no defence to show that all reasonable steps were taken to abate the nuisance. This appears to be the interpretation adopted by the High Court in *Graham and Graham* v. *Re-Chem International*[66]. The case concerned an allegation by the owners of a dairy farm that their cattle had been poisoned as a result of grazing on land contaminated by emissions containing dioxins and furans stemming from the defendant's hazardous waste incinerator at Roughmute.

Although the decision ultimately turned on the issue of causation[67] the court also had the opportunity to consider the meaning of foreseeability in nuisance in the light of the *Cambridge Water* decision. The defendant argued that, at the time the incinerator was in operation, between 1974 and 1984, it was unknown that such a facility could give rise to the emission of dioxins and furans. It was not until 1985 that a scientific paper was presented at a conference which demonstrated that the offending chemicals could be produced by a hitherto unknown chemical reaction (referred to as a *de novo*

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64 Ibid., at p. 307C-D.
65 Ibid., at p. 300 E-F.
66 [1996] Env. L.R. 158
67 See Chapter 3.

synthesis) which occurs whilst the exhaust gases are cooling in the post combustion zone, after, having passed through the gas cleaning scrubbers. However, Forbes J. found ample scientific evidence to show that, although there had been considerable uncertainty regarding how these compounds were formed, at the material time it was known that such facilities produced dioxins and furans. Thus, given the state of scientific knowledge at the time the incinerator was in operation, the judge was satisfied that:

> "[A]t all material times, Re-Chem would have been aware that the operation of a commercial incinerator, such as Roughmute could result in the emission of dioxins and furans in fly ash and flue gases and that some of these compounds were very toxic."[68]

He went on to state that, once it has been established that it was foreseeable that an activity gives rise to a nuisance, it is unnecessary to show that the defendant was aware of precisely how his activity caused the nuisance:

> "For the purposes of liability in nuisance in cases such as the present, it does not seem to me that actual knowledge of the precise chemical processes, whereby the toxic compounds in question are created, is a necessary ingredient."[69]

This illustrates how fault in nuisance now differs from fault in negligence. As Forbes J. went on to point out, knowledge of the means by which the activity gave rise to the harm would be relevant in deciding whether there had been any breach of the common law duty of care thereby giving rise to a cause of action in negligence:

> "Of course, Re-Chem's knowledge at the relevant time as to how, when and where dioxins and furans might be formed in a waste incinerator during its operation would be clearly material to any determination as to what Re-Chem then knew and understood about the full nature of the chemical processes involved in the activity being carried out on the Roughmute site. In certain circumstances, such a determination might be of considerable importance in deciding whether the emission of such substances constituted a breach of a common law duty of care. However, in my opinion, Re-Chem's state of knowledge as to the fine detail of such matters is irrelevant in deciding whether the activity in question was potentially a nuisance, i.e. a nuisance, subject to proof of foreseeable damage to a neighbouring occupier of land [however]...such

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68 [1996] Env. L.R. 158, at p. 167.
69 Ibid., at p. 168.

> a consideration might have been material in deciding whether a breach of duty had occurred in negligence."[70]

Thus, in negligence, it might have been possible for the defendant to argue that, given the state of scientific knowledge at the material time, there were no reasonable steps which he could have taken in order to prevent the harm.

3.4 General Restrictions on Liability in Nuisance

The foregoing indicates that a cause of action in nuisance will now only be available in respect of foreseeable harm; furthermore, it seems that liability may be excluded on policy grounds in the case of historic pollution. In addition, there are certain other restrictions which may preclude the use of the tort in certain circumstances including a number of defences which are specific to the tort.

3.4.1 The Defence of Prescription

Although the fact that the plaintiff has 'come to the nuisance' is generally no defence[71], the defence of prescription provides that no cause of action will lie in respect of an activity which has been continued for at least 20 years[72]. However, it is necessary to show that the activity was exercised lawfully, openly, continuously and was not dependent upon the express grant or permission of a neighbour.[73]

3.4.2 The Defence of Statutory Authority

The defence of statutory authority may defeat an action against a body which has statutory authority to pursue the activity of which complaint is made. Certain statutes impose duties, usually on authorities, which may inevitably cause some discomfort to neighbours; if the duties are particularly onerous, the authority may be powerless to suspend the activity in order to abate the nuisance. For example, in *Smeaton* v. *Ilford Corporation*[74] sewers became overloaded due to the fact that many new houses were

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[70] Ibid., at p. 169.

[71] See for example *Bliss* v. *Hall* (1839) 4 Bing. N.C. 183 in which the defendant had established a tallow-chandlery which emitted: "divers noisome, noxious, and offensive vapours, fumes, smells and stenches" to the discomfort of the plaintiff. It was no defence that the business had been established for three years by the time the plaintiff arrived since he "came to the house...with all the rights which the common law affords, and one of them is a right to wholesome air." per Tindal C.J. at p. 186.

[72] *Sturges* v. *Bridgman* (1879) 11 Ch.D. 852.

[73] For the purposes of private nuisance, a neighbour is a person who has suffered an interference with an interest in land as a result of another's use of their land. See *Read* v. *Lyons & Co. Ltd.* [1947] A.C. 156, per Lord Simmonds, at p. 183: "He alone has a lawful claim who has suffered an invasion of some proprietary or other interest in land". Standing requirements in tort are dealt with more fully in chapter 3, below.

[74] [1954] 1 Ch 450.

being connected to the existing system. Upjohn J. held that the Corporation could rely on the defence of statutory authority in that the local authority had no power to refuse the connection of more houses to the sewer system and had no means of restricting the flow. Even in circumstances where the statute merely serves as a permission to pursue a commercial activity, the defence will be available if the nuisance of which complaint is made is the inevitable consequence of the activity authorised by the statute. In *Allen* v. *Gulf Oil Refining Limited*[75] the defendants were empowered to acquire land for the purpose of constructing an oil refinery by a private Act of Parliament. Neighbours later complained of smells, noise and vibration emanating from the facility and argued that, as the 1965 Act merely empowered Gulf Oil to acquire the land and, as it was silent on the issue of how the refinery should be operated, there could be no statutory authority for the nuisances. The House of Lords held that, the fact that the statute had authorised the activity to be pursued at the location in question, meant that it must have conferred an implicit immunity in respect of disturbances inevitably flowing from the construction of the refinery.

3.4.3 The Hypersensitive Plaintiff.

Provided an activity is reasonable according to the locality doctrine, a person who is pursuing an exceptionally delicate trade or activity may be unable to sustain an action in nuisance against his neighbour. Thus, the courts are reluctant to curtail an ordinary, lawful use of a persons property in the interests of an activity which may be unusual and unduly susceptible to everyday occurrences.

In *Robinson* v. *Kilvert*[76] Lopes L.J. stated:

> "A man who carries on an exceptionally delicate trade cannot complain because it is injured by his neighbour doing something lawful on his property, if it is something which would not injure anything but an exceptionally delicate trade."

The law clearly places the onus on the person conducting the activity to move himself out of harms way or take preventative measures, otherwise, he must endure the consequences of pursuing an activity which is out of keeping with the character of the neighbourhood. However, if the activity of which complaint is made is unreasonable, the defence cannot be used on the grounds that the sensitive nature of the plaintiff's activity meant that he incurred a greater loss than that which would have been incurred by a person not engaged in that particular activity. For example, in the Canadian case

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75 [1981] 1 All E.R. 353.
76 (1889) 41 Ch.D. 88 at p. 97.

of *McKinnon Industries Ltd* v. *Walker*[77] the plaintiff grew orchids on a commercial basis; his stock was killed by poisonous gas emissions emanating from the defendants motor car production plant. The plaintiff brought an action in nuisance; it was argued on behalf of the defence that the plaintiff's activity was hypersensitive and that accordingly the emissions did not constitute an unreasonable use of land. It was held that the issue of reasonableness was entirely separate from the issue of hypersensitivity; once it has been established that an activity is unreasonable, the defendant will be liable for the consequences of his activity notwithstanding the fact that the nature of the plaintiff's activity renders him particularly sensitive to the consequences of the activity. This is clearly in accordance with the "egg-shell" skull principle by which the defendant must take his victim as he finds him[78].

4. THE RULE IN *RYLANDS* V. *FLETCHER*

The rule in *Rylands* v. *Fletcher*, which has already been touched on above, stems from the judgment of Blackburn J. in the eponymous case. In short, the rule establishes strict liability for any escapes resulting from an unnatural use of land:

> "We think that the rule of law is, that the person who for his own purposes brings on his lands and collects and keeps there anything likely to do mischief if it escapes, must keep it in at his peril, and, if he does not do so, is prima facie answer able for all the damage which is the natural consequence of its escape."[79]

Until recently the view prevailed that liability could be established by causation alone.[80] However, in *Cambridge Water* v. *Eastern Counties Leather*, Lord Goff, citing the work of Professor Newark,[81] explained that the rule originated as a species of nuisance.[82] Blackburn J. was merely seeking to clarify the circumstances in which a landowner could be held liable in respect of isolated escapes as opposed to an on-going state of affairs. It is only in subsequent years that the rule has developed into a free standing principle which is not *always* contingent upon the plaintiff having an

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77 [1951] 3 D.L.R. 577.
78 See *Dulieu* v. *White* [1901] 2 K.B. 669, 679, "if a man is negligently run over or otherwise negligently injured in his body, it is no defence to the sufferer's claim for damages that he would have suffered less injury...if he had not had an unusually thin skull or an unusually weak heart.", per Kennedy J.
79 (1866) L.R. 1 Ex. 265, at pp. 279-280.
80 See, for example, *British Celanese Ltd.* v. *A.H. Hunt Ltd.* [1969] 1 W.L.R. 959, per Lawton J., at p. 964.
81 Op. cit.
82 [1994] 2 A.C. 264, at pp. 297-306.

interest in property.[83] Thus, Lord Goff held that, as foreseeability of harm was a pre-requisite of nuisance, it should also be a pre-requisite of *Rylands* v. *Fletcher* liability.

The assimilation of *Rylands* v. *Fletcher* with nuisance has led some to doubt whether the rule can continue to offer any advantage over other torts. In fact, notwithstanding the decision in *Rylands* v. *Fletcher*, the rule retains two major benefits over nuisance. As explained above, despite the inclusion of a foreseeability of harm test, nuisance still imposes a stricter duty than negligence. The advantage of *Rylands* v. *Fletcher* is that, in circumstances where it applies, the plaintiff may rely upon this stricter standard without the need to demonstrate an interest in land.[84] Secondly, it may circumvent the character of the neighbourhood test. This is because, according to Lord Goff, the issue of whether or not an activity constitutes an unnatural use of land should be judged by reference to the activity itself, not the predominant land use in the area.[85] Thus, where the defendant is engaged in a hazardous activity in an industrial area, a plaintiff, who might otherwise be defeated under the character of the neighbourhood test, may succeed under *Rylands* v. *Fletcher*. However, this must be set against the fact that the list of uses deemed 'unnatural' has been continually eroded as once novel activities become well established.[86] As Rogers points out, ultimately the decision to impose strict liability in respect of an activity is based upon policy considerations.[87]

5. PUBLIC NUISANCE

As has been explained above, the creation of the crime of public nuisance resulted from a misleading analogy made between obstruction of the public highway and obstruction of an easement such as a right of access. It was then established that a person who has suffered harm in excess of the general inconvenience suffered by the

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[83] Over the years there has been considerable judicial disagreement on this point. Some judges have maintained that, due to its historical links with nuisance, the rule is only open to those who have an interest in land: see, for example, the dissenting judgment of Lord Macmillan in *Read* v. Lyons [1947] A.C. 167, at p. 173; *Perry* v. *Kendricks Transport Ltd.* [1956] 1 W.L.R. 85, at p. 92; *Weller* v. *Foot and Mouth Disease Research Institute* [1966[1 Q.B. 569, at p. Widgery J., at p. 588. Nevertheless, in several cases the rule has been successfully used in personal injuries claims, not least of which is *Read* v. *Lyons*, notwithstanding the dissenting judgment of Lord Macmillan. Rogers, op. cit., at p. 427, suggests that the overall trend is in favour of this approach.

[84] Ibid.

[85] [1994] 2 A.C. 264, at p. 309B-F.

[86] See, for example, *British Celanese Ltd.* v. *A.H. Hunt* [[1969] 1 W.L.R. 959: "The manufacturing of electrical and electronic components in the year 1964...cannot be judged to be a special use nor can the bringing and storing on the premises of metal foil be a special use in itself...The metal foil was there for use in the manufacture of goods of a common type which at all material times were needed for the general benefit of the community", per Lawton J., at p. 963.

[87] Op. cit., at p. 441.

population as a whole would be able to pursue a civil claim by reason of that 'special hurt'. Hence a private action in respect of a public nuisance has never been a proprietary remedy. However, the association of public nuisance with private nuisance has resulted in its expanding to encompass those activities which have normally been the preserve of private nuisance, namely, interferences emanating from a neighbouring land use. This has resulted in a distinction being made between nuisances affecting a limited number of persons and those which affect enough landholders to constitute a class of Her Majesty's subjects[88]. In *Attorney General* v. *PYA Quarries*[89] which concerned noise and vibration caused by blasting at the defendant's quarry, Denning L.J. formulated the following test for determining whether an activity constituted a public or private nuisance:

> "I prefer to look to the reason of the thing and to say that a public nuisance is a nuisance which is so widespread in its range or so indiscriminate in its effect that it would not be reasonable to expect one person to take proceedings on his own responsibility to put a stop to it, but that it should be taken on the responsibility of the community at large."

Thus, public nuisance is of interest in an environmental context in that many pollutants can disperse quickly and affect large numbers of people living some distance from the source of the escape. Those who suffer special or particular loss, over and above the general inconvenience suffered by the public at large, may pursue private claims in respect of that loss. For example, in Camelford in 1988, a contractor delivering aluminium sulphate to a water treatment works operated by South West Water Services Ltd. deposited 20 tonnes of the chemical into the wrong tank with the result that it was released into the public water supply. South West Water services were convicted of creating a public nuisance and 180 residents, who had suffered ill health effects as a result of drinking or washing with contaminated water, pursued private claims in respect of their particular losses[90].

Due to the fact that public nuisance first arose in highways cases where there was a pronounced overlap with *case*, public nuisance has always been susceptible to the application of a fault based standard of liability. Some of the main authorities on this point have already been discussed in relation to the *Wagon Mound* above. In the Court

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[88] Courts are reluctant to specify how many persons constitute a class. In *R.* v. *Lloyd* (1802) 4 Esp. 200 it was held that three guests at an inn was clearly insufficient to constitute a class.
[89] [1957] 2 Q.B. 169.
[90] South West Water admitted liability; reported litigation focused on the issue of the quantum of damages. See Chapter 3 below.

of Appeal in *Southport Corporation* v. *Esso Petroleum* , Denning L.J. considered that both public and private nuisance was analogous to trespass to land and liability should therefore be strict subject to the defences of necessity and inevitable accident[91]. This approach appreciates the proprietary base of private nuisance and trespass to land but does not distinguish the separate origins of private and public nuisance; the latter has never been associated with restoration of an interest in land. In any case, this argument was ignored by the House of Lords who considered that the matter turned on negligence.

6. NEGLIGENCE

6.1 Key Elements of the Tort

The tort of negligence arose from the *form of action* known as *action on the case* (or simply *case*) and was designed to provide redress for harm resulting from a careless as opposed to a deliberate and forceful act[92]. This type of claim could not be brought under trespass since it concerned indirect and consequential harm[93]. The earliest writs could only be used in cases where the defendant had made some 'prior undertaking' to carry out a service for the plaintiff[94]. The 'prior undertaking' test was eventually expanded into an implied undertaking to conduct activities in a manner which would not cause loss to neighbours, meaning all those who are foreseeable victims of carelessness[95]. At first, the term 'negligence' was merely one of a series of adverbs used to describe the concept of fault. As negligence hardened into a specific cause of action with its own principles other terms fell into disuse.

In the field of personal injuries and damage to personal property, the standards of liability in negligence and trespass have been assimilated with the result that it is now possible to bring a claim in negligence in respect of a deliberate or intentional act[96].

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91 [1954] 2 Q.B. 182, at pp. 196-197.

92 One of the earliest successful applications of the writ, found by Fifoot, concerns the case of *Waldon* v. *Marshall* (1367) Y.B. 43 Ed. 3, f. 33, pl. 38, in which a horse died at the hands of a negligent veterinary surgeon. See Fifoot, op. cit., at p. 75.

93 Ibid. Thus in *Waldon* v. *Marshall* the defendant's argument that the plaintiff should have brought the action under common trespass was rejected on the grounds that "the horse was not killed by force, but by default if his cure."

94 See Fifoot, op. cit., at p. 156.

95 This development appears to have occurred during the course of a series of seventeenth century cases concerning running down on the highway and collisions at sea: these include *Mitchil* v. *Alestree* (1676) 1 Vent. 295 and *Mustart* v. *Harden* (1680) T. Raym. 390. See Prichard, op. cit.; Fifoot, op. cit., at pp. 164-166.

96 See *Williams* v. *Humphry* (1975), *Times*, 12th February. The act of deliberately pushing a man into a swimming pool submitted him to a foreseeable risk of injury and hence gave rise to liability in negligence.

However, negligence still differs significantly from trespass to land and private nuisance in that fault is the actual cause of action, whereas, in the latter torts, fault may be a factor in establishing liability.

The basic elements of the tort were identified as early as the 18th Century where Buller[97] offered a definition which subsists in essence to this day. Since Buller, the definition has been refined through case law and can now be said to consist of three elements, namely a duty to take care, a breach of that duty, and loss sustained by another person as a result of the breach of duty. A duty of care is owed to those persons who are at potential risk from an activity; in other words they must be foreseeable victims of any misfeasance. In *Donoghue* v. *Stevenson*, Lord Atkin formulated his famous proximity test to assist with determining foreseeable victims:

> "You must take reasonable care to avoid acts or omissions which you can reasonably foresee would be likely to injure your neighbour. Who, then, in law is my neighbour? The answer seems to be - persons who are so closely and directly affected by my act that I ought reasonably to have them in contemplation as being so affected when I am directing my mind to the acts or omissions which are called in question".[98]

As regards conduct which gives rise to a breach of the duty, Alderson B. proposed an objective test in *Blyth* v. *Birmingham Waterworks Co.* which is still followed today:

> "Negligence is the omission to do something which a reasonable man, guided upon those considerations which ordinarily regulate the conduct of human affairs, would do, or doing something which a prudent and reasonable man would not do".[99]

Whether the defendant's conduct was reasonable has to be judged by reference to the circumstances of the case including, for example, industry standards[100], the magnitude of the risk[101] and generally 'what the reasonable man would have in contemplation'[102]. This latter requirement means that the reasonable man should be in a position to foresee that damage would be caused by his failure to act with due care.

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[97] Buller, *Trials at Nisi Prius*, (6th edn.), p. 25: "Every man ought to take reasonable care that he does not injure his neighbour; therefore, where-ever a man receives any hurt through the default of another, though the same were not wilful, yet it be so occasioned by negligence or folly, the law gives him an action to recover damages for the injury so sustained

[98] [1932] A.C. 562 at p. 580.

[99] (1856) 11 Ex. 781 at p. 784.

[100] *Wilsher* v. *Wessex Area Health Authority* [1987] Q.B. 730.

[101] *Bolton* v. *Stone* [1951] A.C. 850; *Paris* v. *Stepney Borough Council* [1951] A.C. 367.

[102] *Glasgow Corporation* v. *Muir* [1943] A.C. 448, at p. 457, per Lord Macmillan.

The rationale for this is that one cannot conduct activities with a view to avoiding unforeseeable harm.[103]

6.2 Negligence and the Environment

Trespass and nuisance have featured most prominently in litigation arising from pollution. This is because most recognized forms of pollution have interfered with neighbouring property. It has been usual to plead negligence in addition to the torts to land, however, a land owner generally has a far greater chance of success under the latter. The main reason for this is that, despite the decision in *Cambridge Water*, it seems that liability in trespass and nuisance is still stricter than in negligence.

It is often extremely difficult to establish fault on the part of the defendant. Negligence was alleged in *Esso Petroleum* v. *Southport Corporation*[104], in addition to the claims in trespass and nuisance, on the grounds that the master of the vessel should not have proceeded to navigate a narrow channel knowing that the steering mechanism had developed a fault. However, this cause of action also failed; weather conditions were worsening and any attempt to turn or weigh anchor would have been hazardous. The master had weighed up the risks before opting to head for sheltered water. In reaching this decision he had not shown any want of care or skill.

The issue of negligence was quickly dispensed with in *Cambridge Water* v. *Eastern Counties Leather*. Since PCE in relatively small concentrations was not recognized as being harmful at the material time, Eastern Counties Leather were not expected to have taken steps to prevent any spillages from occurring.

There was also an attempt to establish negligence on the part of the defendants in *Graham and Graham* v. *Re-Chem International*. It was alleged that the incinerator was operated in a manner which failed to sustain the temperature, recommended by EPA and HMIPI regulations, needed for destroying PCBs (1050 - 1100°C). The main argument put forward on behalf of the plaintiffs on this point was that the doors to the furnaces were frequently left open thereby allowing the temperature to fall. Evidence produced by the manufacturers of the incineration equipment referred to the fact that the waste materials were in fact passed through five separate chambers (termed 'cells') each of which contained burners. The temperature in the final cell was crucial in that it operated as the 'safety net' and was designed to destroy any PCB molecules not

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103 *Roe* v. *Minister of Health* [1954] 2 Q.B. 66.
104 [1956] A.C. 218, at p. 240.

already destroyed by the burners in the other four cells. Forbes J. found, as a matter of fact, that the doors to the first cell were only open for relatively short periods for loading or ashing out and, although the door was often left slightly ajar, this would not be sufficient to affect the temperature in the fifth cell[105]. In any event, further scientific evidence, produced by the United States EPA, was accepted which showed that PCBs were destroyed at temperatures falling considerably below these levels and that the recommended temperature included a considerable built in safety margin[106]. In addition the Roughmute incinerator subjected the waste materials to a longer than usual burn time which would offset slight drops in the recommended temperature.

The issue of negligence was not of crucial importance in this case in that, as stated above, the matter was settled on the basis of causation. However, it provides further evidence to suggest that, despite the *Cambridge Water* decision, it is still more difficult to establish liability in negligence than in nuisance due to the need to establish breach of the duty of care in addition to foreseeability of damage. As noted above, as regards the claim in nuisance, there was no need to examine the manner in which the plant was operated, the sole issue concerned whether it was known that the facility was emitting pollutants which had in fact caused damage.

Nevertheless, on occasion successful actions have been brought in negligence in respect of environmentally harmful activities. A clear example is provided by the case of *Tutton* v. *A.D. Walter Ltd.*[107] The defendant was a farmer who grew rape seed in West Sussex. One summers day, he sprayed his crop with an insecticide called Hostathion which was known to be harmful to bees. As a result, a large number of the plaintiff's bees, which had been foraging in the field, were killed. The plaintiffs brought an action in negligence on the grounds that the chemical had been used in a manner which contravened advice issued by the Agricultural and Advisory Service (A.D.A.S.) and the manufacturer's instructions issued with the product. The advice and instructions recommended that in order to reduce the risk of harming bees, the chemical should be used on cool days or at dusk and never when the crop was in bloom.

In the High Court, Denis Henry Q.C. applied Lord Reid's proximity test in order to determine whether the plaintiffs were foreseeable victims of the misuse of the chemical. The presence of the bee-keepers was well known to the defendant due to the

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105 [1996] Env. L.R. 158, at pp. 186-189.
106 Ibid., at pp. 180-181.
107 [1985] 3 W.L.R. 797.

fact that they had exchanged correspondence regarding a spraying incident the previous year. The harmful nature of the chemical was also well known to the defendant who had the benefit of the A.D.A.S. advice and the instructions on the drums which contained the chemical. Given these facts it was held that the defendant ought reasonably to have had the plaintiffs in contemplation whilst spraying his crops. The judge then turned to the issue of whether this duty had been broken. The advice and instructions pertaining to the use of the chemical could not be said to have imposed onerous requirements when balanced against the potential threat to the bees, thus a failure to observe the instructions was clearly a breach of the duty of care owed to the bee-keepers.

Negligence is the only available course of action where loss is unrelated to any interference with interests in land. In this respect the tort is becoming of increasing importance in an environmental context. Scientific advances have begun to establish links between illnesses and certain pollutants, hence, there is likely to be an increase in personal injury litigation arising from pollution. For example, in *Margereson* v. *J.W. Roberts Ltd.*,[108] the plaintiffs had developed mesothelioma as a result of exposure to asbestos dust from the defendant's factory during childhood when they used to play in the factory loading bay. JWR was found liable on the grounds that the risks of asbestos had been known since 1925 and, since the children were allowed to play in the immediate vicinity of the factory, it was foreseeable that they would be exposed to the risk of pulmonary disease. The case is significant in that it is the first such claim in which the duty of care has been extended, beyond factory employees, so as to encompass those immediately outside the factory walls. However, as will be seen in the next chapter, it is often extremely difficult to establish liability where the pollutant is dispersed into the wider environment.

7. BREACH OF STATUTORY DUTY

Many industries and authorities are regulated by statutes which set out duties and impose criminal or regulatory sanctions for breach of those duties. Although the primary purpose of these statutes is not to provide redress for an individual who has suffered loss, as a result of any breach of the duties imposed, certain statutes give rise to a private cause of action. This is known as the tort of breach of statutory duty; it is important to note that it is an independent tort which has given rise to its own body of

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108 Joined cases: *Hancock* v. *J.W. Roberts Ltd*; *Hancock v. T.&N. Plc* [1996] Env. L.R. (4)304. See Steele, J., and Wikely, N., "Margereson v. J.W. Roberts Ltd", (1997) 60(2) *Modern Law Review* 265.

case law[109]. Thus, issues such as the applicable standard of liability must be determined by reference to the Act creating the duty rather than comparison with other torts such as negligence[110].

A limited number of statutes make specific provision for private tort claims following a breach of duty, conversely certain statutes expressly preclude private compensation claims for breach of duty. In such circumstances the breach of duty may nevertheless provide evidence of a breach of the common law duty of care in a separate action in negligence[111]. Where a private right of action is neither expressly included or excluded the courts have developed a number of tests for determining whether an intention to facilitate private actions can be implied[112].

As the tort is governed, to a large extent, by the statute under which it arises there are few common principles. However, from the case law it is possible to discern certain key elements which the plaintiff must establish. In short, the duty must be owed to the plaintiff[113]; the injury must be of the kind which the statute is intended to prevent[114]; the defendant must be in breach of an obligation which falls within the scope of the Act[115]; and, the breach of duty must have caused the damage[116].

In an environmental context, an important example of a statutory provision which gives rise to a cause of action for breach of statutory duty concerns section 12 of the Nuclear Installations Act 1965. This provides that any person who suffers injury or damage, as a result of a breach of any of the duties set out in sections 7 to 10 of the

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109 This differs from the situation in certain States of the US and Canada where it merely serves as compelling evidence of a breach of the duty of care or "concretises" the duty of care. See Winfield and Jolowicz, op. cit., pp. 170-171.

110 See *L. P. T. B* v. *Upson* [1949] A.C. 155, "A claim for damages for breach of a statutory duty intended to protect a person in the position of the particular plaintiff is a specific common law right which is not to be confused in essence with a claim in negligence...I have desired before I deal specifically with the regulations to make it clear how in my judgment they should be approached, and also to make it clear that a claim for their breach may stand or fall independently of negligence. There is always a danger if the claim is not sufficiently specific that the due consideration of the claim for breach of statutory duty may be prejudiced if it is confused with the claim in negligence." per Lord Wright at 168-169.

111 See, for example, *Lochgelly Iron & Coal Co.* v. *M'Mullan* [1934] A.C. 1.

112 There is little consistency in the case law regarding the circumstances in which the tort should be implied. In general, it has been stated that Acts which are designed to protect a class of individuals are capable of giving rise to a private cause of action: *Lonrho Ltd* v. *Shell Petroleum Co. Ltd. (No. 2)* [1982] A.C. 173. In such circumstances, the existence of separate enforcement measures in the Act such as criminal penalties does not necessarily preclude the existence of a private cause of action: *Groves* v. *Wimborne* [1898] 2 Q.B. 402.

113 *Hartley* v. *Mayoh & Co.* [1954] 1 Q.B. 383.

114 *Gorris* v. *Scott* (1874) L.R. 9 Exch. 125

115 *Chipchase* v. *Titan Products* Co. [1956] 1 Q.B. 545

116 *Ginty* v. *Belmont Building Supplies Ltd.* [1959] 1 All E.R. 414.

Act, shall have a right to compensation. Section 7 of the Act simply imposes a duty on the licensees of nuclear installations to prevent occurrences at the site causing property damage or injury to any persons, other than the licensee, by the release of any substances having radioactive, toxic, explosive or other hazardous properties. Sections 8 to 10 impose similar duties to prevent occurrences leading to the above results on the Regulatory Authority, the Crown and certain foreign operators respectively. As will be seen in the next chapter, there have been various attempts to found civil claims on section 12 in respect of alleged releases of ionising radiation from nuclear installations.

Another key example of relevance in an environmental context concerns section 73(6) of the Environmental Protection Act 1990. This provides that anyone who deposits controlled waste in contravention of the licensing requirements, imposed by sections 33(1) and 63(2), shall be liable to pay damages in respect of any personal injury or damage to property caused by the deposit.

8. CONCLUSIONS

The earliest torts, namely trespass and nuisance, arose in the context of the protection of private interests in land. Negligence evolved later as an implied obligation to conduct activities with due care. Negligence has continued to grow in importance and has succeeded in infiltrating other areas of tort where there is a clear overlap. The most pronounced overlap between the torts occurs where there has been tangible damage. Thus, whereas a householder, who suffers health effects as a result of noxious emissions, may have a cause of action in both negligence and nuisance, a family member living in the same property, with no proprietary interest in the house[117], would be confined to negligence[118]. As a result of such anomalies, it has been argued that, where there has been tangible damage, the time has come to establish a uniform negligence based standard of liability[119]. This would limit nuisance, based upon strict liability, to circumstances in which there has been no physical loss and the dispute is purely proprietary in nature[120]. Such an approach has long since been adopted in Germany[121].

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117 Standing requirements for actions in tort are discussed in chapter 3.

118 See Newark, op. cit., at p. 489, "A sulphurous chimney in a residential area is not a nuisance because it makes householders cough and splutter but because it prevents them from taking their ease in their gardens."

119 See Gearty, C., "The Place of Private Nuisance in a Modern Law of Torts" [1989] *Cambridge Law Journal* 214.

120 See Law Commission Report No. 32, *Civil Liability for Dangerous Things and Activities*, p. 25. In cases where the defendant is seeking an injunction to prevent an on-going nuisance, "consideration of the

However, it is difficult to secure public interest objectives, such as environmental protection, by means of a system which focuses on the private rights and the conduct of the individuals in a dispute. As will be seen in the next chapter, such an approach severely limits the use of tort as a means of environmental protection.

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strictness of the duty is than out of place - all the court is concerned with is the question, 'should the plaintiff be told to stop this interference with the plaintiff's rights?' Whether or not the defendant knew of the smell or noise or the like when it first began to annoy the plaintiff does not matter; he becomes aware of it at the latest when the plaintiff brings his claim before the court."

[121] Under paragraph 906 of the Civil Code (Das Bürgerliches Gesetzbuch: BGB), nuisance actions may only be brought in respect of interferences from 'unweighable particles'. These include gases, vapours, smells, smoke, soot, heat, noises and shocks. According to the decision in the 'Smelting Oven' (*Kupolofen*) case, BGHZ 92, 143 (1985), any actions in respect of physical damage to property or personal injury must be brought under the all embracing duty to take care, set out in paragraph 823 BGB. See Markesinis, B.S. (1994), *The German Law of Torts* (3rd edn.), Clarendon Press, at pp. 880-881.

Chapter 3

The Current Limitations of Tort as a Means of Environmental Protection

1. INTRODUCTION

Establishing civil liability for environmental damage in an environmental context is subject to certain difficulties which currently limit its role in environmental protection. In many cases concerning pollution the plaintiff faces exceedingly high procedural costs, known as 'transaction costs', which represent legal costs associated with establishing liability on the part of the defendant. Transaction costs are increased by factors such as the need to establish fault and causation; as will be seen below, these costs may be particularly acute in many cases concerning environmental damage.

The use of civil liability in an environmental context is also limited by the fact that, as stated towards the end of the previous chapter, torts are concerned with the protection of private interests. This creates two problems, firstly, the loss suffered by an individual may not reflect the full costs of the damage caused to the environment; thus compensation awarded to a plaintiff may not be sufficient to fund, for example, clean up costs. Secondly, as torts are closely tied to the protection of individual rights and interests, there is a limited notion of standing. As a result, in the absence of an individual victim, organizations concerned with environmental protection are generally not in a position to pursue civil claims on behalf of the environment in its own right.

2. THE NEED TO ESTABLISH FAULT

The extent to which it is necessary to establish fault on the part of the defendant has already been explored in some detail in the previous Chapter. To reiterate, negligence is the only tort in which fault forms the actual basis of the cause of action. However, as a result of cross-contamination between the old forms of action, aspects of fault based liability have now entered other torts such as nuisance. Towards the end of the previous chapter it was noted that there is increasing support for the view that, in cases of personal injury or tangible damage to real or personal property, negligence should be adopted as a uniform basis of liability; this is already the position in Germany.

Taking this step would certainly clarify the law and remove anomalies. However, from an environmental perspective, the need to establish fault in all cases would place a heavy burden on the plaintiff. To recap, in nuisance, it suffices to show that the defendant knew that his activity was causing, for example, the emission of noxious substances. However, it is not necessary for the plaintiff to establish that the defendant was at fault in failing to abate the pollution. Thus, in *Graham and Graham* v. *Re-Chem*

International[1], had the Grahams been able to establish causation, they would have succeeded in their nuisance claim in that there was ample evidence that Re-Chem knew that PAHs were being released from their facility. Thus, the fact that, at the material time, science had yet to isolate the chemical processes which led to the harmful emissions had no bearing on the issue of nuisance; knowledge of the emissions would have been sufficient to establish liability. However, in negligence, in addition to establishing that the defendant knew of the emissions, it is necessary to show that he failed to take adequate steps to abate them. For example, in *Graham and Graham*, in order to succeed in negligence, it would have been necessary to demonstrate that Re-Chem was in a position to prevent the emissions and failed to do so. This would entail establishing that Re-Chem was aware of the chemical processes which led to the pollution; clearly, it is impossible to introduce abatement technology without knowing how the pollution is caused.

Due to the scientific complexity of many processes which cause pollution, it may be extremely difficult for the plaintiff to establish that, given the current state of scientific knowledge, the pollution was preventable.

3. CAUSATION

3.1 Difficulties in Establishing Causation for Environmental Damage

Damage arising from nuisances or negligent acts constitutes a form of indirect consequential harm. Thus the causal link between the act complained of and the alleged consequential damage is susceptible to being broken, or at least cast into doubt, by intervening factors or other possible causes. The industrial revolution led to a rapid increase in development with the result that it became increasingly difficult for a land-holder to determine which of his neighbours was responsible for a nuisance. Whereas before, there would probably only have been one possible candidate for the source of the pollution, post-industrial revolution, a landholder would have found himself surrounded by belching chimneys. In giving testimony to a Select Committee on Noxious Vapours, Robert Gerard stated:

> "I might explain that the reason why I have not myself brought actions against the alkali manufacturers at St. Helens has been simply this: I am assured by my solicitor that it is impossible to bring an action with any chance of success unless I can put my finger upon the right man. I

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[1] [1996] Env. L.R. 158.

> cannot put my finger upon the right man, with all the assistance I can get, when there are a dozen or 20 works all emitting vapours at the same time".[2]

The problem was compounded when there were a number of different industries in the area, each producing different substances which mixed together. Scientific knowledge was not usually capable of isolating the individual elements and tracing them to their respective sources. In giving evidence to the same committee Michael Garvey, a barrister, stated that it was almost impossible to establish liability on the grounds of:

> "The difficulty of selecting any one of those effluvia and tracing it up to its source, so as to bring it home to the manufacturer by legal evidence. We have always been defeated on this point".[3]

Scientific techniques for tracing pollutants to source have undoubtedly improved, however, it is still often extremely difficult to establish causation. In the last century, claims were usually only brought in respect of self-evident pollution such as smoke, fumes and waste products. As scientific knowledge has progressed, increasingly complex links between latent toxins and various types of harm have been discovered. However, it is one thing to discover a potential link, it is quite another to provide sufficient proof of the link for the purposes of establishing liability. Negligence claims for personal injuries are likely to increase as advances in scientific knowledge begin to establish possible links between health problems and environmentally harmful activities. This creates difficult causation problems in that a toxin is often only one of a number of possible causes for a particular illness. Nevertheless, even a small dose of a certain toxin may increase the incidence of certain illnesses; this is referred to as the 'stochastic effect'. As will be seen below, such developments are already beginning to strain existing legal tests for establishing causation.

3.2 Legal Tests for Establishing Causation

As regards the issue of causation in general, the courts usually apply a 'but for' test which entails establishing whether the harm would have occurred in the absence of the defendant's actions[4]. Thus, it is necessary for the plaintiff to show that, on a balance of

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2 Select Committee on Noxious Vapours (1862), Minutes of Evidence 23, Q 238.
3 Ibid., 189, Q 2027.
4 "Subject to the question of remoteness, causation is a question of fact. If the damage would not have happened but for a particular fault, then that fault is the cause of the damage; if it would have happened just the same, fault or no fault, the fault is not the cause of the damage. It is to be decided by the ordinary plain common sense of the business": *Cork* v. *Kirby MacClean Ltd.* [1952] 2 All E.R. 402, at pp. 406-407.

probabilities, the defendant's conduct was the main cause of the harm. Where there are competing causes this may be a difficult evidential burden to discharge.

The emergence of the 'material contribution' test suggested that, in certain circumstances, it would suffice to show that, although the defendant's conduct may not have been the main cause of the harm, it nevertheless made a material contribution to the plaintiff's misfortune. The test first emerged in the case of *Bonnington Castings* v. *Wardlaw*[5] where Lord Reid formulated it in the following terms:

> "[H]e [the plaintiff] must make it appear at least on a balance of probabilities the breach of duty caused or materially contributed to his injury...What is a material contribution is a question of degree. A contribution which comes within the exception de minimus non curat lex is not material, but I think any contribution which does not fall within that exception must be material."[6]

In *McGhee* v. *N.C.B.*[7] Lord Reid took the opportunity to refine his earlier formulation and referred to the fact that it would suffice to show that the activity materially increased the risk of the harm occurring:

> "But it has often been said that the legal concept of causation is not based on logic or philosophy. It is based on the practical way in which the ordinary man's mind works in the everyday affairs of life. From a broad and practical viewpoint I can see no substantial difference between saying that what the defender did materially increased the risk of injury to the pursuer and saying that what the defender did made material contribution to his injury."[8]

This elaboration of the material contribution test appeared to suggest that, provided the plaintiff could show that the defendant's acts or omissions subjected him to an unacceptable level of risk, there would be no need for him to establish that the act complained of was in fact the cause of the harm in his particular case. However, there was some doubt as to whether this was intended to become a general principle of causation or whether it was limited to the facts of the case.

The matter was clarified some years later when the House of Lords returned to the issue of causation in *Wilsher* v. *Essex Area Health Authority*[9] which concerned an

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[5] [1956] A.C. 613.
[6] Ibid., at 620-621.
[7] [1973] 1 W.L.R. 1.
[8] Ibid., at p. 5.
[9] [1988] 1 A.C. 1074

allegation of medical negligence. The case centred on the issue of whether a premature baby had suffered eye damage as a result of medical staff negligently administering too much oxygen. However, the facts of this case differed from *McGhee* and *Wardlaw* in that there were four alternative explanations for the harm which were unrelated to any actions carried out by the medical staff. In his leading judgment Lord Bridge did not consider that Lord Reid's material increase in risk test should be applied in such circumstances. In *McGhee* there was no doubt that the illness was caused by brick dust and that the plaintiff was only exposed to brick dust at his place of work. Thus, as the employer must have contributed in some way to the harm, it was reasonable to assume that any failings which materially increased the risk of the injury did in fact materially contribute to the harm. Lord Bridge stated that such an approach was appropriate in the light of the particular facts of *McGhee*:

> "Adopting a robust and pragmatic approach to the undisputed primary facts of the case, the majority concluded that it was a legitimate inference of fact that the defender's negligence had materially contributed to the defender's injury."[10]

However, in *Wilsher*, there was a strong possibility that the harm was in no way connected with the actions taken by the medical staff. Lord Bridge stated that he could not find fault with the dissenting judgment of Sir Nicolas Brown-Wilkinson V.-C. in the Court of Appeal decision in the same case where the distinction between the circumstances of *McGhee* and the present case was made in the following terms:

> "The position, to my mind, is wholly different from that in the *McGhee* [1973] 1 W.L.R. 1, case where there was only one candidate (brick dust) which could have caused the dermatitis, and the failure to take a precaution against brick dust causing dermatitis was followed by dermatitis caused by brick dust. In such a case, I can see the common sense, if not the logic, of holding that, in the absence of any other evidence, the failure to take the precaution caused or contributed to the dermatitis. To the extent that certain members of the House of Lords decided the question on inferences from evidence or presumptions, I do not consider that the present case falls within their reasoning. A failure to take preventative measures against one out of five possible causes is no evidence as to which of those five caused the injury."[11]

Thus it now seems well established that, where there is more than one possible causal agent, the court should not infer that any acts or omissions on the part of the

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[10] Ibid., at 1090D.
[11] [1987] Q.B. 730, at p. 779.

defendant, which are capable of increasing the risk of harm, did in fact contribute to the harm[12].

3.3 Establishing Causation for Environmental Damage

Extrapolating the House of Lords authorities on causation to an environmental context it seems that, in applying the material contribution test, it must be demonstrated that a polluting activity actually contributed to the plaintiff's loss. As a general rule it will not suffice to show that the activity materially increased the risk of the harm occurring, unless, there is no doubt regarding the nature of the substance which caused the harm and its source. It is only in recent years that a number of cases concerning environmental damage have been decided which address the issue of causation. Meeran[13] anticipated that Lord Bridge's restrictive interpretation of the material contribution test would render it extremely difficult to establish causation in cases concerning environmental damage. In the light of these decisions it seems that Meeran's concerns have proved to be well founded. If the pollution occurs in high concentrations in the immediate vicinity of a plant, the plaintiff should not be presented with major difficulties in establishing causation. However, once in the environment, a pollutant may merge with other substances already present in the environment with the result that the damage pathways become obscured; it may not be possible to disentangle the effects of the pollutant from the effects of other possible causal agents. In such circumstances it may be impossible to establish causation to the satisfaction of the court due to the need to establish that the activity of which complaint is made actually contributed, as a matter of fact, to the harm in a particular case.

3.3.1 Cases Where There is Only One Known Cause

As noted above, where the identity and source of the polluting substance is not in doubt, the plaintiff is not presented with major difficulties in establishing causation. This has recently been demonstrated by the case of *Margereson* v. *J.W. Roberts Ltd.*[14]

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[12] The decision is in line with Lord Bridge's judgment in *Hotson* v. *East Berkshire AHA* [1987] 2 All E.R. 909. Here it was found that there was a 25% chance that the plaintiff's disease was caused by a misdiagnosis by a hospital doctor and a 75% chance that the disease would have developed in any case. This was found to be insufficient to discharge the burden of proof. Had a material increase in risk approach been adopted there is a possibility that the misdiagnosis would have been construed as making more than a de minimus contribution to the illness. The decision also confirms the conclusion reached in the Scottish case of *Kay's tutor* v. *Ayrshire and Arran Health Board* [1987] S.L.T. 577 where an attempt to develop the decision in *McGhee* was also rejected.

[13] Meeran, R., "Problems of Causation in Environmental Personal Injury", (1992) 136, *Solicitors Journal*, 32, 804-806.

[14] [1996] Env. L.R. (4) 304.

in which two women, who had lived in the vicinity of an asbestos plant, successfully claimed damages in negligence having developed the cancer mesothelioma of which the only known cause is exposure to asbestos dust. Residents in the immediate vicinity of the plant had been exposed to extremely high concentrations of asbestos dust during the 1930s. In winter, children used to gather for warmth outside the extraction ducts and were coated with dust. Furniture in houses in the area was described as having been coated with dust to the extent that it was possible to write in it. The trial judge commented that, "I cannot sensibly distinguish the conditions at 13 Aviary Road from those in the factory...the defendants knew or ought to have known that their dust emissions created such conditions"[15]. However, the judge also stated that:

> "what I reject is the proposition that all exposure outside this category could be categorised as 'environmental', something contrasting with, and markedly less potentially hazardous than, exposure within the factory. I have no doubt but that, in the immediate vicinity of the defendants' premises, factory conditions in terms of dust emission were at various points effectively replicated so as to give rise to like foresight of potential injury to those exposed for prolonged periods".[16]

However, difficulties in establishing causation increase significantly where the pollution can in fact be referred to as 'environmental'. As stated above, once a pollutant has been dispersed into the environment over a wide area, the number of alternative causes are multiplied.

3.3.2 Cases Where There is More than One Possible Cause

In *Graham and Graham* v. *Re-Chem International*[17] the plaintiffs faced additional difficulties in establishing causation in that there was more than one possible explanation for their loss. It will be recalled that the case concerned an allegation by the Grahams that their dairy cattle had been poisoned by emissions emanating from the defendant's toxic waste incinerator at Roughmute. It was the plaintiffs' contention that the symptoms displayed by the cattle were consistent with a condition known as PHAH toxicosis which could have been caused by ingestion of grass contaminated with dioxins and furans. Re-Chem argued that the symptoms in fact bore a closer resemblance to those displayed by cattle suffering from an entirely unrelated condition known by the inelegant title of Fat Cow Syndrome (FCS) and certain other ancillary causes.

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15 240 *Health & Safety Bulletin* 3.
16 Ibid.
17 [1996] Env. L.R. 158.

Forbes J. stated that, where there was more than one possible cause for the harm, it would suffice to show that the defendant's conduct caused or materially contributed to the plaintiff's loss[18]. The judge also referred to the judgment of Lord Reid in *McGhee* where his Lordship stated that it would suffice to show that the activity materially increased the risk of the harm occurring[19]. As regards the effect of the House of Lords decision in *Wilsher*, Forbes J. concluded that Lord Reid's risk formulation of the material contribution test was re-affirmed[20]. The only part of the decision which was rejected , in his view, concerned comments made by Lord Wilberforce which appeared to suggest that, in certain circumstances, the effect of the material contribution test as formulated by Lord Reid would be to reverse the burden of proof[21]. Thus, it seems that Forbes J. would have been content for the plaintiff to establish that the emissions from the incinerator materially increased the risk of damaging the health of the cattle. It is respectfully suggested that the judge erred on this point of law in that he did not refer to the distinction made by Lord Bridge in *Wilsher* between the facts of that case and *McGhee*. The facts in the *Graham and Graham* case are more closely related to *Wilsher* than *McGhee* in that the alternative cause was unrelated to the operation of the incinerator. However, in the event this issue had no effect on the outcome of the case as the plaintiffs could not satisfy even this liberal interpretation of the material contribution test.

Having reviewed the evidence, Forbes J. was satisfied that the symptoms were more typical of FCS than PHAH toxicosis. In particular, he referred to the existence of intercellular fat deposits which are indicative of the onset of FCS and are in no way associated with PHAH toxicosis. Furthermore, many symptoms were closely associated with a reduction in the immune response of the cattle which is also indicative of FCS. Especially damning to the Grahams' case was the fact that FCS had been diagnosed by veterinary surgeons when the cattle first began to fall ill in 1984. A course of treatment was prescribed, involving a change of diet, to which the cattle responded. The Grahams failed to continue the treatment as they were convinced that the toxic waste incinerator was the true cause of the harm. It was stated that Mr. Graham was "blind to any signs of improvement and quickly gave up any hope of saving his herd"[22]. This led Forbes J. to conclude that "the proper welfare of the Grahams' cattle was sacrificed on the altar of Mr Graham's obsessive belief in

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18 Ibid., at pp. 171-172.
19 Ibid.
20 Ibid.
21 See below.
22 Ibid., at p. 176.

Re-Chem's responsibility for his problems"[23]. In addition, the FCS symptoms could have been compounded by a number of ancillary causes also unrelated to the operation of the incinerator. For example, it was found that the cattle suffered from copper and selenium deficiency; this was probably due to the fact that the land upon which the cattle grazed was naturally deficient in these elements. Furthermore, it was found that the cattle suffered from vitamin A and E deficiency, a condition which was also entirely inconsistent with PHAH toxicosis.

3.3.3 Toxic Micro-pollutants

The *Graham and Graham* decision did not provide a particularly rigorous test for the main methods of establishing causation, in that the evidence against the hypothesis that the harm was due to emissions from the incinerator was over-overwhelming. However, a greater challenge for established legal reasoning is presented by toxic micro-pollutants. The effects of these elements are extremely difficult to quantify due to the fact that they interact with the receiving media in a complex manner. As a result it may be impossible to disentangle the effects of the pollutant from other elements in the environment for the purposes of estimating the extent to which they contributed to the loss suffered by the plaintiff. Thus it is extremely difficult, if not impossible, to establish a definite biological link between the pollutant and the harm in an individual case. An illustration of the difficulties associated with establishing causation in these circumstances is provided by litigation arising out of claims for loss alleged to have been caused by radiation from nuclear facilities.

The case of *Merlin* v. *British Nuclear Fuels* PLC[24] concerned an alleged breach of statutory duty under the Nuclear Installations Act 1965. The plaintiffs lived in the vicinity of the Sellafield Nuclear Waste reprocessing plant. They were led to believe that their house may have been contaminated by radionuclides emanating from the defendant's plant. The likely source of the contamination was traced to a waste pipe discharging effluent into the sea. Samples of house dust were sent to various experts for analysis. The plaintiffs were greatly concerned by the findings of Professor Radford in the United States who claimed to have discovered levels of the alpha emitting substances plutonium and americium which were greatly in excess of the national average. On the basis of this information the plaintiffs decided to move house in order to avoid potential health risks to their children. However, as a result of publicity caused by a television documentary, the plaintiffs were unable to sell their property and were eventually compelled to sell it for an undervalue at auction. They

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[23] Ibid., at p. 177.
[24] [1990] 3 W.L.R. 383.

claimed for the difference between the original asking price and the price obtained at auction.

Following a great deal of scientific debate, the High Court came to the conclusion that the plutonium and americium detected in the property did not add significantly to radiation caused by naturally occurring radon gas. It was accepted that levels of these substances in excess of the national average is not necessarily harmful. This is because plutonium and americium are man made substances and average levels have only been introduced since nuclear weapons testing; this level is in fact exceedingly low and is not as significant as naturally occurring radiation which provides a more reliable bench mark for monitoring increases in radiation. Gatehouse J. stated:

> "The radionuclides with which this case is concerned - plutonium isotopes and americium - are alpha emitters. These cannot do any significant damage to persons or property externally, but when inhaled, ingested or otherwise enabled to enter the body they may induce cancers, but, of course, will not necessarily do so. The presence of alpha emitting radionuclides in the human airways or digestive tracts or even in the blood stream merely increases the risk of cancer to which everyone is exposed from both natural and artificial radioactive sources. They do not per se amount to injury".[25]

In order to overcome the difficulties associated with establishing a biological link in an individual case an attempt was made to rely upon epidemiological evidence in the joined cases of *Reay and Hope v. British Nuclear Fuels Plc*[26]. The first plaintiff, Elizabeth Reay, claimed that the death of her baby daughter in 1962 from leukaemia was attributable to her husband's exposure to radiation whilst employed as a fitter by BNFL at Sellafield in the 1950s and early 1960s. She claimed damages under the Fatal Accidents Acts 1956-70 and the Law Reform (Miscellaneous Provisions) Acts 1934-70 in respect of the death of her daughter. In addition, she claimed damages for injury to herself and on behalf of the estate of her late husband for injury caused by the trauma of the loss of their daughter. The second plaintiff, Vivien Hope, also claimed that her cancer, in this case lymphoma, had been caused by her father's exposure to unacceptably high doses of radiation whilst employed by BNFL. Although she had largely recovered, she had been left partially disabled and infertile as a result of her treatment; damages were claimed in respect of these disabilities plus the pain and suffering which she had endured.

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[25] Ibid. at p. 396 E-G.
[26] *Elizabeth Reay* v. *British Nuclear Fuels Plc* and *Vivien Jane Hope* v. *British Nuclear Fuels Plc* [1994] Env. L.R. 320.

BNFL accepted that they had breached their statutory duty under the Atomic Energy Authority Act 1954 which required the operator,

> "...to secure that no ionising radiations from anything on any premises occupied by them, or from any waste discharged (in whatever form) on or from any premises occupied by them, cause any hurt to any person or any damage to any property, whether he or it is on any such premises or elsewhere."[27]

The case turned solely on the issue of whether there was a causal link between this breach of duty and the losses claimed by the plaintiffs. In both cases the causal mechanism, by which the plaintiffs claimed that the fathers' exposure to radiation at Sellafield led to their children developing cancer, was extremely complex. The evidence was based on a hypothesis proposed by Professor Gardner termed paternal pre-conception irradiation (PPI). This proposed that exposure to radiation could lead to genetic mutation in fathers' sperm which would result in their off-spring being genetically pre-disposed to developing cancer. The exact causal mechanism by which this process could take place was unknown although it was argued that a genetic pre-disposition to cancer could be passed to children through the germ-line. The main evidence for this assertion was that other syndromes by which a person may become genetically predisposed to leukaemia such as Down's Syndrome and Bloom's syndrome may also be passed to children through the germline.

In order to overcome the difficulties associated with establishing the exact causal mechanism by which this process took place, the Gardner study adduced epidemiological evidence to suggest that there was a strong association between PPI and cancer in the children of Sellafield workers[28]. Epidemiology is a statistical exercise which relies upon the study of a large number of cases with a view to determining whether there is a correlation between the symptoms displayed by a class of people and possible causes.[29] If a large percentage of the class were exposed to a common element, there is a statistical probability that their symptoms are attributable

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[27] The facilities in question, known as 'Piles', were opened in 1950 and were designed to produce plutonium. It is now widely accepted that their construction was poor; indeed, in giving evidence, one of the engineers who was largely responsible for their construction referred to them as "monuments to our initial ignorance". See [1994] Env. L.R. 320, p. 328.

[28] Published in two papers in the *British Medical Journal*, February 1992.

[29] The House of Lords accepted that such evidence could be used to establish causation in *Hotson* v. *East Berkshire Health Authority* [1987] 2 All E.R. 909: "In some cases, perhaps particularly medical negligence cases, causation may be so shrouded in mystery that the court can only measure statistical chances", per Lord Bridge, at p. 913.

to the same cause[30]. The Gardner study established an association between workers at Sellafield and the incidence of cancer in their children.

However, the plaintiffs did not rely entirely upon the Gardner study, this is possibly due to the fact that they were aware of certain shortcomings in the report which were in fact later identified by the judge. Oncologists believe that cancers, including leukaemia and lymphoma, are multifactorial and are triggered by two separate events or 'hits'. It was argued on behalf of the plaintiffs that the babies were born genetically pre-disposed to cancer and that the second 'hit', which actually triggered the cancer, may have been caused by exposure to background radiation in the environment. The plaintiffs contended that levels of background radiation in the vicinity of Sellafield had been enhanced by emissions of uranium oxide into the environment emanating from the Sellafield installation. It was alleged that this increased background radiation to levels over and above that which was due to other causes for which the defendant was not responsible such as atomic weapons testing, Chernobyl and naturally occurring radon gas.

In order to test the reliability of the epidemiological study, French J. applied the Bradford-Hill criteria which were drawn up by an eminent professor in the field in 1965[31]. Two of these criteria proved to be particularly significant in the outcome of the case, namely, consistency and biological plausibility.

French J. considered the study failed the consistency test on the grounds that the findings did not accord with other leading epidemiological studies on the children of

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[30] A succinct explanation of the subject was provided by one of the expert witnesses, Professor MacMahon, and was cited by French J. in his judgment: "In the end it must be recognised that the idea of cause is a probabilistic one. Rarely can we be certain that a causal relationship exists, but by assembling evidence from many different angles we may build a body of support sufficient to convince most reasonable people that it is more prudent to act as though the association were causal than to assume that it is not. The point in the accumulation of evidence at which this decision is reached depends in considerable part on the consequences of the alternative actions to be taken as a result of the judgment." [1994] Env. L.R. 320, at p. 336. The use of epidemiological evidence has now been accepted by the courts. See, for example, *Loveday* v. *Renton, The Times*, 31 March 1988.

[31] The head note of the judgment usefully summarises the criteria as follows: "(i) *The strength of the association found by the study*; (ii) *biological gradient* - that is, the consistency of dose with response in a dose response relationship; (iii) *Temporal Relationships* - that is, cause must always precede effect; (iv) *The consistency of the result of the study with other similar studies concerned with the same subject matter*; (v) *Biological plausibility* - that is, the existence of a plausible or reasonable biological pathway by which radiation could cause or contribute to a disease; (vi) *Coherence*; this criterion looks to the compatibility of a postulated cause with the known facts; (vii) *Experimental evidence* - a criterion which did not assist in this case because there have been no relevant laboratory experiments on live humans; (viii) *Analogy* - for example, if chemicals were shown to produce a similar result, that would be an example of analogy; and (ix) *Specificity of the alleged link between the disease of interest and the exposure of interest* - not very useful in this case because radiation is known to cause a variety of diseases." See [1994] Env. L.R. 320, at p. 323

radiation victims. Of particular interest was a detailed study of the offspring of the victims of the A-bombs dropped on Nagasaki and Hiroshima. The survey was carried out over many years and was described by the judge as, "the largest and most thoroughly executed epidemiological study ever carried out."[32] The study followed 30,000 offspring of over 70,000 parents over a 45 year period. The results of this study proved to be entirely inconsistent with the Gardner study in that the genetic mutation rate alleged to have been caused by exposure to radiation at Sellafield was "off the scale" in comparison with the genetic mutation rates detected in the A-bomb studies[33] and smaller scale animal tests.[34] Furthermore other epidemiological studies into PPI did not discover any link between exposure to radiation and cancer in offspring.[35]

These inconsistencies cast doubt on whether the association identified by the Gardner Report between Sellafield and the incidence of cancer in children was in fact attributable to Sellafield. As a result, attention was focused on the biological plausibility test. The reason for this can be explained as follows. If there was a scientifically well established and highly plausible damage pathway between Sellafield and the victims by way of PPI, it would suggest that, although out of keeping with other studies, there was a probability that radiation emanating from Sellafield caused or contributed to the high incidence of cancers in the area. In such circumstances, the fact that rates of genetic mutation were out of keeping with the other studies would be of less significance and it would be reasonable to explain the discrepancies on the basis that there was some unique circumstance at Sellafield of which science was not yet aware. However, in this case, although it was accepted that the PPI hypothesis was not impossible, science had yet to establish a plausible causal mechanism by which this process could take place. Although French J. accepted that a causal relationship could not be excluded on mechanistic grounds, given the fact that the results of the Gardner study were entirely inconsistent with other studies, it would be necessary to show that a causal relationship was more than a theoretical possibility:

> "These witnesses command great respect. In my judgment they do indeed show that a causal relationship between PPI and leukaemia in F.1 [immediate offspring] should not be excluded on purely mechanistic grounds, though, clearly, a great deal more research is

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32 [1994] Env L.R. 320, at p. 351.
33 Ibid., at p. 365.
34 Ibid. The Drosophila studies exposed mice to radiation with a view to determining the effect on offspring.
35 Ibid., at p. 361-363. These included studies into the children of Canadian uranium miners (McLaughlin); Dounreay employees (COMARE, 1988, and Urquhart, 1991); Sellafield employees in Gateshead and North Humberside (McKinney, 1991) ; patients exposed to diagnostic radiation i.e. X-rays (Graham, 1966 and Shu, 1988).

> necessary. What they do not do in my judgment, is to show that, in the light of current knowledge, the Seascale cluster is capable of being explained numerically by the biological mechanisms which are the subject matter of their research."[36]

The plaintiffs argued that the discrepancies between the findings of the Gardner study and the various other studies, in particular the Japanese A-bomb studies, were attributable to unique environmental circumstances in the Sellafield area which were not replicated elsewhere. In particular, they referred to the fact that the PPI may have synergized with radiation from other sources. This would provide the 'second hit' necessary to trigger the cancer. At an early stage in his judgment, French J. dismissed the argument that radiation in the vicinity of Sellafield was augmented significantly by emissions of uranium oxide into the atmosphere. The plaintiffs had originally claimed that some 400 kilograms of uranium oxide had been released into the atmosphere whereas the defendants claimed that only 15-20 kilograms had in fact been released. Weighty scientific reports were adduced in support of this conclusion. In the event, the plaintiffs elected not to challenge the evidence on scientific grounds in the interests of saving time and money. Instead, they sought to cast doubt on the reliability of the witnesses produced to support BNFL's estimates regarding uranium dioxide emissions. For example, counsel for the plaintiffs suggested that the National Radiological Protection Board, which had produced a report which supported BNFL's figures, had not acted with impartiality. Based on the impression he had gained of the witnesses whilst they were under cross examination, French J. stated that he could find no reason to doubt their reliability[37].

The plaintiffs appeared to concede this point. However, they argued that it was irrelevant whether the 'second hit' was caused by uranium oxide or background radiation from other sources. The fact that rates of genetic mutation in the sperm were much higher than those detected in other studies indicated that it was reasonable to assume that PPI had synergized with some other element which was not present in, for example, the A-bomb studies. If this was the case, the material contribution test would be satisfied in that it would have been shown that the PPI was instrumental in creating the conditions necessary for cancer to develop. However, French J. also rejected this argument on the grounds that it was highly speculative and presupposed the phenomena which it sought to explain, namely, why the genetic mutation rates

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[36] Ibid., at p. 367.
[37] Ibid., at p. 334.

indicated by the Gardner study were so much higher than those indicated by other studies[38].

In summary, although French J. accepted that the Gardner study fulfilled the first Bradford-Hill criterion (strength of the association found by the study) in that it indicated "an arithmetically strong prima facie association"[39] this was not in itself sufficient to discharge the burden of proof. The judge was persuaded by various studies which demonstrated that the existence of a cancer cluster was not in itself evidence of a common cause[40]. As a result, it would be necessary to fulfil other Bradford-Hill criteria in order to establish causation on a balance of probabilities. In this case, the criteria of consistency and biological plausibility proved to be decisive; for the reasons set out above the Gardner study was found to fail both these tests.

French J. has been criticized in this case for placing too much emphasis on the need to establish a plausible biological explanation for the harm[41]. The common sense approach would suggest that, once it has been established that there is a strong association between the incidence of a disease and the potential source of the harm, it is not necessary to identify the precise scientific chain of events between the source of the harm and its impact. Holder argues that there is established authority for such a common sense approach:

> "A review of the case law suggests that the higher courts have not found an absence of a scientific *explanation* of the causal mechanism underlying an association fatal to a plaintiff's claim once the association has been prima facie proven. Pugh and Day[42] describe this as 'the use of common sense to fill gaps where scientific understanding is incomplete' and consider that the approach 'has a perfectly respectable legal pedigree.'"[43]

Support for this contention is drawn from obiter comments made by Lord Bridge in *Wilsher* where he accepted that it is not necessary to prove causation scientifically,

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[38] Ibid., at p. 366.
[39] Ibid., at p. 361.
[40] Ibid., at pp. 356-359. Cancer clusters can be produced by unusual demographic circumstances and population mixing, particularly where a rural community is subject to an influx of people as a result of the establishment of an industry in the vicinity. The judge was particularly persuaded by the Kinlen study which suggested that a leukaemia cluster in the vicinity of the Dounreay nuclear re-processing plant was attributable to this phenomena rather than PPI.
[41] See Wilkinson, D., "*Reay and Hope* v. *British Nuclear Fuels Plc.*", (1994) Water Law, 22.
[42] Pugh and Day, (1992) *Toxic Torts*, p. 52.
[43] Holder, J., "Causation in Environmental Law", (1994) 47(2) *Current Legal Problems* 287, at p. 299.

"...where the layman is told by the doctors that the longer the brick dust remains on the body, the greater the risk of dermatitis, although the doctors cannot identify the process of causation scientifically, there seems to be nothing irrational in drawing the inference as a matter of common sense, that the consecutive periods when brick dust remained on the body probably contributed cumulatively to the causation of the dermatitis. I believe that a process of inferential reasoning on these general lines underlies the decision of the majority in *McGhee.*"[44]

As an example of the application of this approach in an environmental context Holder cites the Irish case of *Hanrahan* v. *Merck Sharp and Dohme*[45] in which the plaintiffs alleged that a chemical factory built just one mile from their farm had injured the health of their cattle and had caused crop damage. It was not possible to establish a scientific causal link between the chemical plant and the loss sustained by the plaintiffs. However, given the fact that the loss occurred within a relatively short time of the plant opening and given the fact that there was no other plausible explanation, the court was prepared to infer that the harm was due to emissions emanating from the plant. Henchy J. stated that to insist upon scientific certainty in establishing causation,

> "...would be to allow scientific theorising to dethrone fact to dispose of this claim by saying...that there was 'virtually no evidence in this case of injury to human beings or animals which has been scientifically linked to any chemicals emanating from the defendant's factory'...the most credible explanation offered for the ailments and abnormalities in the cattle was the toxic emissions from the factory."[46]

However, these cases concerned instances where the identity of the causal agent was not in doubt. Thus the courts were prepared to infer that there was a causal link between the actions of the defendant and the harm suffered by the plaintiff. As explained above, the *Wilsher* decision arrested the development of a general principle, whereby, it would suffice to show that the defendant's actions materially increased the risk; this was limited to the circumstances of *McGhee.* In the *Reay and Hope* case there was more than one possible source of radiation. According to the approach demanded by the *Wilsher* decision, where there is more than one possible causal agent, attention is inevitably focused on establishing whether there is a viable scientific explanation for the mechanism by which a harmful substance reaches and affects the receiving media. The reason for this can be explained as follows. Where there is no

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44 [1988] W.L.R. 557, at p. 567.
45 [1988] I.R. 629.
46 Ibid., at p. 645.

viable alternative causal agent involved, it is unnecessary to establish the precise causal mechanism between the source of the harm and the point of impact. Although possible explanations cannot be proved or may even seem improbable in the light of current scientific knowledge, the fact that there is a strong association between the harm and the defendant's activities would suggest that this was in fact the damage pathway which the substance actually followed. However, where there is more than one possible causal agent involved, it is necessary to enquire more closely into possible causal mechanisms in order to ascertain which of the potential causal agents could have led most easily to the harm in question.

To sum up, although the defendant's activity may have increased the risk of the harm occurring, it may be impossible to ascertain whether it actually contributed to the harm in a particular case. Since Lord Bridge in *Wilsher* separated the concept of materially increasing risk from material contribution and limited the former to circumstances in which the identity of the causal agent is not in doubt, it seems that it will not suffice to show that an activity materially increased the risk for the purpose of discharging the burden of causation. Thus, as Wilkinson[47] notes, according to the law as it stands, it would not have been appropriate for the judge in *Reay* and *Hope* to infer that there must have been a causal link between PPI and cancer on the basis of the Sellafield clusters. Holder counters that it is possible to distinguish *Reay* and *Hope* from *Wilsher* on the basis that the alternative causes in *Wilsher* were capable of causing the harm independently whereas in *Reay* and *Hope* it was likely that the alternative causes would act cumulatively or synergistically[48]. Thus, it would be reasonable to infer that the defendant's activity must have contributed in some way to the harm.

The problem with this argument is that substances which are capable of acting in synergy with other substances may also be capable of acting independently. In *Reay* and *Hope* French J. could not see any reason why the cancers may not have been entirely due to the alternative causes which the plaintiffs postulated synergized with PPI in a manner which triggered the development of the cancers:

> "It [the synergy theory] does not demonstrate the *necessity* for an underlying radiation induced mutation transmitted by fathers with which 'factor X' can synergise or co-operate to induce leukaemia in children; why should factor X not operate on its own?"[49]

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[47] Op. cit.
[48] Op. cit., at p. 302.
[49] [1994] Env. L.R. 320 at p. 366.

3.4 Main Issues Associated With Establishing Causation for Environmental Damage

Cases such as *Reay* and *Hope* demonstrate that it can be extremely difficult to establish causation in cases involving environmental damage. The cases referred to above suggest that these difficulties are mainly attributable to the House of Lords' narrow interpretation of the material contribution test and the burden of proof placed on the defendant.

3.4.1 Limitations of the Material Contribution Test.

From an environmental perspective it is unfortunate that the House of Lords chose not to extend the principle, first suggested by Lord Reid in *Wardlaw*, that it would suffice to show that an activity materially increased the risk of the harm occurring. As noted above, Forbes J. in *Graham* and *Graham* applied the risk formulation of the test, however, it seems that the judge may have erred in law on this point. Had the Grahams won, it is likely that the case would have been appealed on this issue. Thus, where there is more than one possible causal agent for the harm, the material contribution test may still place a heavy evidential burden on the plaintiff. In the case of a pollutant such as radiation, it may be possible to do no more than to establish that an activity increased the risk of the harm occurring. This is because it is impossible to distinguish radiation emanating from a nuclear facility from background radiation.

Price[50] points out that, although the House of Lords have precluded establishing causation on the basis of a material increase in risk in cases where it is well established that the alternative cause is capable of causing the harm in its own right, it has not closed the door on the use of purely statistical evidence where this may be the only means of establishing a causal link. In *Hotson* v. *East Berkshire Area Health Authority* Lord Bridge said:

> "In some cases, perhaps particularly medical negligence cases, causation may be so shrouded in mystery that the court can only measure statistical chances. But that was not so here. On the evidence there was a clear conflict as to what had caused the avascular necrosis."[51]

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[50] Price, D. P. T., "Causation - the Lords' lost chance?", (1989), 38 (4) *International Comparative .Law Quarterly* 735, at p. 753.
[51] [1987] 2 All E.R. 9009, at p. 913.

In *Wilsher* Lord Bridge did not pursue this theme or attempt to clarify the circumstances in which a plaintiff would be able to rely on purely statistical evidence capable of establishing an increase in risk. Thus, as Price[52] argues, in the *Wilsher* decision the House of Lords missed an opportunity to expand the material contribution test so as to enable it to accommodate modern scientific techniques for establishing causation.

The law of causation is governed by policy as much as by logic; *Clerk and Lindsell* states, "[t]he 'but for' test is only a rough guide, since policy and common sense sometimes dictate departures from it."[53] The decision of the House of Lords in *McGhee* to relax the burden of causation so as to enable the employee to recover damages on the basis of an increase in risk may have been motivated by policy considerations rather than logic. In that case, Lord Wilberforce described the inference which Lord Reid drew to bridge the evidential gap as "something of a fiction"[54] in that "it was expressly this inference which the medical expert declined to make."[55] Furthermore, it will be recalled that in his dissenting judgment in the Court of Appeal decision in *Wilsher*, Sir Nicolas Browne-Wilkinson V.-C. referred to the fact that he could "see the common sense, if not the logic"[56] of the approach adopted by the majority in *McGhee*. Nevertheless, Lord Wilberforce was clearly of the opinion that there were powerful policy reasons for finding in favour of the plaintiff in *McGhee*:

> "[I]f one asks which of the parties, the workman or the employers, should suffer from this inherent evidential difficulty, the answer as a matter of policy or justice should be that it is the creator of the risk who, *ex hypothesi*, must be taken to have foreseen the possibility of damage, who should bear its consequences."[57]

Holder is of the opinion that the *Reay and Hope* decision must be viewed in the general context of energy policy. She considers that it is particularly significant that Thorp's licence of operation at Sellafield was granted just weeks after the judgment:

> "[A]rguably, success for the plaintiffs on grounds that radiation emissions from Sellafield had caused, or materially contributed to,

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52 Op. cit.
53 Clerk and Lindsell on Torts (15th ed., 1982), chap. 11, para. 11-41.
54 [1972] 3 All E.R. 1008, at p. 1013.
55 Ibid.
56 [1987] Q.B. 730, at p. 779.
57 [1972] 3 All E.R. 1008, at 1012.

> childhood cancers in the surrounding villages would have rendered Thorp politically untenable"[58].

Adjusting the standard of proof on a case by case basis in order to accommodate policy considerations can lead to a great deal of uncertainty. This is clearly demonstrated by the confusion to which the material contribution test has given rise. It is possibly for this reason that Lord Wilberforce appears to have been favour of a more systematic approach to relieving the burden of proof on causation. As will be seen below, his Lordship was of the view that the burden should be effectively reversed in certain circumstances.

3.4.2 The Burden of Proof

The demands of establishing causation in a case as complex as *Reay and Hope* places a heavy evidential burden on the plaintiff. In the light of the *Wilsher* decision, Meeran[59] expressed concern that the courts would call for scientific certainty of a causal link rather than deciding the matter on the basis of a balance of probabilities. The two standards are incompatible in that scientific proof demands 95% certainty whereas the balance of probabilities test only requires the court to be more than 50% sure that the defendant is liable. However, this is somewhat of an over simplification of the problem.

The principal function of the court is to make a determination, on a balance of probabilities, on the issue of whether the defendant was responsible for the harm. However, in making this determination the court must assume that certain processes are possible as a matter of scientific fact and in making these assumptions the court must be guided by scientific evidence. In certain cases there may be a scientific consensus that A is capable of causing B; for example, in *McGhee* there was no doubt that prolonged contact with brick dust could cause dermatitis. Where there is scientific disagreement matters are rather more complex, however, the court is not the appropriate forum for settling theoretical scientific disputes. Thus, when confronted with two conflicting theories the court must decide which it prefers. In making this determination it would be folly for the court to attempt to reach a definitive conclusion as to which theory is correct. Instead it must apply general criteria such as the weight of support attached to one theory, the scale of the study and so forth. In this respect, the court relies very heavily on expert testimony regarding whether a theory satisfies the scientific burden of proof. Thus, in this sense Meeran is correct when he argues

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[58] Op. cit., at pp. 308-309.
[59] Op. cit.

that the courts are concerned with scientific certainty rather than a balance of probabilities. However, once the court has accepted that a phenomenon is possible as a matter of scientific fact, it must then decide whether the phenomenon was responsible in an individual case. The court must make this latter determination in accordance with the balance of probabilities test.

The problem with this approach is that, as the burden of proof is on the plaintiff, where scientific arguments are finely balanced the court will usually give the benefit of the doubt to the defendant. As Holder notes[60], the judge in *Reay* and *Hope* was remarkably uncritical of evidence adduced by BNFL regarding levels of uranium dioxide emitted from its Sellafield installations. This is despite the fact that estimates have been revised upwards on a regular basis by relatively large amounts[61]. As noted above, the plaintiffs gave way on this point by electing not to produce detailed scientific evidence in support of their own estimates[62]. A clearer example, noted by Holder, of the judge erring in favour of the defence where scientific arguments were finely balanced concerns the issue of whether or not leukaemia and lymphoma should be treated as the same diseases. In making this determination the judge stated:

> "The evidence on either side [whether lymphoma and leukaemia are to be treated as the same disease]...was so evenly balanced that the question remains an open question. It may well be that advances in scientific knowledge will enable a definite answer to be given in the future..., but, as matters stand, I can only say that I am not satisfied that leukaemia and lymphoma are properly to be regarded as a single disease for the purposes of this case."[63]

This cast doubt on the methodology of the Gardner study in that it undermined the numerical association established between Sellafield workers and the cancers suffered by their offspring; this dealt a severe blow to the plaintiffs' case:

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[60] Op. cit., at p. 292-293.
[61] Ibid. Estimates were increased from 100 grammes to 15-20 kilogrammes over a ten year period preceding the case.
[62] Counsel for the plaintiffs (Mr. Hytner) appeared to be of the opinion that to pursue this issue in this case would overburden the court and draw the case out unduly. As the issue was ancillary in this matter it was left on one side. However, towards the end of his judgment French J. referred to the fact that Mr. Hytner had not conceded the figures and might pursue the issue again in cases pending. See [1994]Env. L.R. 320, at p. 370.
[63] [1994] Env. L.R. 320 at 369.

> "If NHL [lymphoma] be considered on its own there is virtually no evidence to suggest, let alone prove, an association, certainly not a causal association between PPI and [lymphoma]."[64]

Had French J. found that the phenomenon of PPI was prevalent in the Seascale area and that lymphoma and leukaemia could be regarded as the same he would have been faced with the task of deciding whether the plaintiffs in this particular case were victims of PPI. It seems clear that he would have made this determination on the basis of a balance of probabilities. For example, the judge would have been prepared to find that Vivien Hope's lymphoma was due to PPI on the basis that she was part of the excess of cases detected in the Seascale area:

> "...had I been satisfied that NHL was properly to be considered as a form of leukaemia and had I been satisfied that PPI did cause or contribute to the Seascale excess, including NHL, I would have found that Vivien Hope was part of that excess and her claim, on those hypotheses, would have succeeded."[65]

In the light of the precautionary principle, which shall be encountered in subsequent chapters, it may be inappropriate to place such a heavy evidential burden on the plaintiff. Reversal of the burden of causation in such matters would, perhaps, persuade the court to give the benefit of the doubt to the plaintiff in cases where scientific arguments are finely balanced. At common law it is only possible to reverse the burden of proof under *res ipsa loquitur* where there is no doubt that the defendant was responsible for the harm and the only issue concerns whether he was at fault[66]. Judicial attempts to reverse the burden of proof in cases where causation has been an issue have failed. For example, in *Vyner* v. *Waldenberg Bros.*[67] Scott L.J. proposed that, where there had been a breach of statutory duty, the defendant would have the burden of establishing that the breach of duty did not contribute to the plaintiff's loss. However, this approach was declared to be erroneous by the House of Lords in *Wardlaw*. In *McGhee*, Lord Wilberforce attempted to resurrect the principle and argued that,

> "...it is sound principle that where a person has, by breach of duty of care, created a risk, and injury occurs within the area of risk, the loss

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64 Ibid.
65 Ibid., at p. 370.
66 It is an essential requirement that the harm resulted from a happening which was under the control of the defendant. See, for example, *Easson* v. *L.N.E. Ry.* [1944] 2 K.B. 421. If there is doubt regarding the cause of the harm res ipsa loquitur cannot apply in that there is no certainty that the harm resulted from a matter over which the defendant had control.
67 [1946] K.B. 50.

> should be borne by him unless he shows that it had some other cause."[68]

Once again, this approach was rejected by the House of Lords in *Wilsher* where Lord Reid dismissed Lord Wilberforce's comments as a minority view for which he could find no support in the judgments of the majority[69]. For the moment at least, it seems there is no prospect of the common law developing any new rules to relieve the burden of causation placed on the defendant in cases where there is more than one possible causal agent.

4. STANDING

Locus standi to pursue an action in tort is limited to those who have suffered some form of loss such as property damage and personal injury, or, an interference with the rights and benefits which flow from an interest in land. Thus, in negligence, damages may only be recovered by the individual or legal person who has sustained the loss or, in the case of fatal accidents, dependants.

As regards nuisance, it is well established that a person must have an interest in land[70]; whilst this encompasses freehold estates and tenancies it does not encompass bare licences or a mere permission to reside in a certain property. The usual case cited in support of this proposition is *Malone* v. *Lasky* in which the plaintiffs occupied a house as licensees of the husband's employers who owned the property. The wife was injured when vibrations emanating from an engine operated in the defendant's property dislodged a bracket which struck her on the head. Sir Gorell Barnes stated that:

> "Many cases were cited in the course of the argument in which it had been held that actions for nuisance could be maintained where a person's rights of property had been affected by the nuisance, but no authority was cited, nor in my opinion can any principle of law be formulated, to the effect that a person who has no interest in property, no right of occupation in the proper sense of the term, can maintain an action for nuisance arising from the vibration caused by the working of an engine in an adjoining house. On that point, therefore, I think that

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68 [1972] 3 All E.R. 1008, at p. 1012.
69 [1988] 1 A.C. 1074 at p. 1087F-G.
70 See, for example, *Read* v. *Lyons & Co. Ltd* [1947] A.C. 156, "He alone has a lawful claim who has suffered an invasion of some proprietary or other interest in land", per Lord Simonds at p. 183.

> the plaintiff fails, and that she has no cause of action in respect of the alleged nuisance."[71]

The only known exceptions to this general principle concern certain cases in which the plaintiff enjoys exclusive possession of the property although he may not be able to prove title to the land[72]. The House of Lords reaffirmed this interpretation of the law in the recent case of *Hunter* v. *Canary Wharf Ltd*[73] which concerned actions in nuisance relating to interferences with television signals and dust and noise caused by the construction of the Canary Wharf building. As many of the plaintiffs had no interest in the houses affected other than the householders' permission to reside in the properties, one of the issues which fell to be determined concerned whether their interest in the matter would suffice to sustain an action in nuisance. Lord Goff[74] was impressed by Professor Newark's seminal article on the origins of nuisance[75] in which it was emphasised that nuisance arose as a means of protecting certain rights flowing from *proprietary* interests in land. Professor Newark's historical analysis led him to the conclusion that, in order to found an action in nuisance, it is necessary to establish an interference with a right which flows from a legal interest in the property:

> "In true cases of nuisance the interest of the plaintiff which is invaded is not the interest of bodily security but the interest of liberty to exercise rights over land in the amplest manner. A sulphurous chimney in a residential area is not a nuisance because it makes householders cough and splutter but because it prevents them taking their ease in their gardens. It is for this reason that the plaintiff in an action for nuisance must show some title to realty."[76]

Lord Goff noted that various courts, both in the UK and the Commonwealth, had attempted at various times to relax this standing requirement in order to allow those with lesser interests in property to pursue actions in nuisance[77]. These authorities led

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71 [1907] 2 K.B. 141, at p. 151.

72 This is because *jus tertii* is no defence to an action in nuisance. See *Foster* v. *Warblington Urban District Council* [1906] 1 K.B. 648.

73 [1997] 2 W.L.R. 684, at p. 693B-C, per Lord Goff.

74 Ibid., at p. 691D-H.

75 Newark, "The Boundaries of Nuisance" (1949) 65 *Law Quarterly Review* 480. See Chapter 1, above.

76 Ibid., at pp. 488-89.

77 See *Motherwell* v. *Motherwell* (1976) 73 D.L.R (3d) 62 and *Khorasandjian* v. *Bush* [1993] Q.B. 727. In both these cases family members sought injunctions in order to prohibit the continuance of harassing telephone calls. The judgments cited the case of *Foster* v. *Warblington Urban District Council*, above,, which provided that it would suffice to show 'occupancy of a substantial nature' as authority for the proposition that close family members with no title to the realty would be in a position to obtain injunctive relief. Lord Goff dismissed this approach on the grounds that it misconstrued the Foster decision (presumably on the grounds that the case was solely concerned with the issue of *jus tertii* and should not be treated as a general proposition) and constituted an attempt to establish a tort of

the Court of Appeal, below[78], to conclude that it would suffice to show that an individual enjoyed a 'substantial interest' in property. However, his Lordship emphatically rejected this approach on the grounds that it would effectively sever nuisance from the law of property and could conceivably lead to a situation in which, for example, employees could sustain actions in nuisance in respect of discomforts endured at their place of work. This would eviscerate the rationale of the tort and would:

> "[T]ransform it from a tort to land into a tort to the person, in which damages could be recovered in respect of something less serious than personal injury and the criteria for liability were founded not upon negligence but upon striking a balance between the interests of neighbours in the use of their land."[79]

Trespass to land also constitutes a tort which is concerned with the protection of rights in property, namely exclusive possession. Generally speaking, the person who enjoys exclusive possession of a parcel of land may rely upon the tort in order to exclude others[80]. This is not necessarily the owner of the property, where there is a tenancy agreement (as opposed to a licence) the right to exclusive possession will vest in the tenant for the duration of the agreement[81]. In common with nuisance, a person who cannot prove that he has title to the property may nevertheless rely upon the tort until another person can establish a better title[82].

Thus, from an environmental perspective, a major draw-back of tort is that it cannot be used in order to protect the environment in its own right, liability is contingent upon damage coinciding with loss suffered by an individual. Of course, even where environmental damage does coincide with such loss, there is no guarantee that the individual concerned would choose to pursue the matter. For example, where an area of waste land is owned by a distant property developer, he may have no interest in the property until the time comes to develop it; this could be a matter of years. In the mean time the site could become an unofficial waste dump which would render it vulnerable to contamination by all manner of polluting substances; in order to deal with

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harassment "via the back door". There was no need to develop the law in this way following the enactment of the Harassment Act 1997. See Lord Goff, [1997] 2 W.L.R. 684, at pp. 693-695.

78 *Hunter* v. *Canary Wharf Ltd.* [1996] 1 All E.R. 482 (C.A.), at pp. 494-498.

79 [1997] 2 W.L.R. 684, at p. 696F-G.

80 See, for example, *Radaich* v. *Smith* (1959) 101 C.L.R. 209, at p. 222, per Windeyer J.

81 The issue of whether an agreement constitutes a licence or a tenancy must be determined by reference to the substance of the agreement, not merely the label attached to it. See *Street* v. *Mountford* [1985] A.C. 809.

82 *Jones* v. *Chapman* (1849) 2 Exch. 803.

situations such as this it has been necessary to develop regulatory responses[83]. Alternatively, the individual concerned may be willing to institute civil proceedings but may lack the necessary resources.

Unless non-governmental organizations (NGOs), such as environmental pressure groups, are afforded standing to act on behalf of the environment as a separate entity from the various private interests which vest in it, the role of tort in an environmental context will continue to be extremely limited. However, at present, there does not appear to be any prospect of the courts extending standing in this manner. As Jocob states:

> "It should perhaps be emphasised that at present there is no perceptible move in England for enlarging the representative or class action e.g.,, to cover consumer claims, to enforce civil rights, or to obtain protection against environmental pollution. Access to justice in these areas must await a dramatic change of climate in civil procedural law in England."[84]

This contrasts with developments in the field of public law where NGOs have made significant progress in establishing locus standi in judicial review proceedings. In *R* v. *Pollution Inspectorate ex parte Greenpeace (No 2)*[85] Greenpeace sought to challenge a decision by the regulatory authority to vary authorisations relating to the operation of the Thorp nuclear re-processing plant so as to enable British Nuclear Fuels plc to test a new facility at the site prior to the granting of new authorisations. BNFL argued that Greenpeace did not have a sufficient interest in the matter to be afforded locus standi to challenge the decision[86]. Otton J. stated that the issue of locus standi in judicial review proceedings was primarily a matter for the discretion of the court to be determined on a case by case basis[87]. Thus it was necessary to consider the nature of

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[83] Local authorities are granted certain powers to carry out remediation works in default and to recover costs from the polluter or owner or occupier of the site. See, for example, Environmental Protection Act ss. 79-80; Town and Country Planning Act s. 215; Water Resources Act s. 161.

[84] Jacob, I.H., "Access to Justice in England" in Mauro Capelletti and Bryant Garth, eds., *Access to Justice - A World Survey*, vol. I, book I, 1978, Alphen aan den Rhijn/Milan, at pp. 417, 471.

[85] [1994] 4 All E.R. 329.

[86] Section 31(3) of the Supreme Court Act 1981 provides: "No application for judicial review shall be made unless the leave of the High Court has been obtained in accordance with rules of court; and the court shall not grant leave to make such an application unless it considers that the applicant has a sufficient interest in the matter to which the application relates." RSC Ord 53, r 3 (7) provides: The court shall not grant leave unless it considers that the applicant has a sufficient interest in the matter to which the application relates.

[87] [1994] 4 All E.R. 329, at p. 349h.

the organisation and the extent of its interest in the matter; Otton J. was satisfied that Greenpeace met these criteria:

> "BNFL rightly acknowledges the national and international standing of Greenpeace and its integrity. So must I. I have not the slightest reservation that Greenpeace is an entirely responsible and respected body with a genuine concern for the environment. That concern naturally leads to a bona fide interest in the activities carried on by BNFL at Sellafield and in particular the discharge and disposal of radioactive waste from its premises and to which the respondent's decision to vary relates. The fact that there are 400,000 supporters in the United Kingdom carries less weight than the fact that 2,500 of them come from the Cumbria region. I would be ignoring the blindingly obvious if I were to disregard the fact that those persons are inevitably concerned about (and have a genuine perception that there is) a danger to their health and safety from any additional discharge of radioactive waste even from testing. I have no doubt that the issues raised by this application are serious and worthy of determination by this court."[88]

However, further comments by Otton J. suggest that a general interest in the environment will not suffice[89]; it is necessary to establish a special and long standing interest in the matter[90]. Furthermore, it seems that the applicant must have played an active role in the specific matter to which the application relates. This is illustrated by the case of *R.* v. *Poole Borough Council ex parte Beebee*[91] in which the applicants sought to challenge the decision of a local authority to grant itself planning permission in respect of an area of heath land which had been designated as a site of special scientific interest (SSSI). The applicants represented the British Herpetological Society (BHS) and the World Wildlife Fund (WWF). Schiemann J. had no doubt that BHS had a sufficient interest in the matter due to conservation work it had carried out at the site over many years. Of particular significance was the fact that the local authority had included a condition in the consent which required BHS to be given one year's notice of the commencement of any development works in order to enable them to relocate rare species known to inhabit the site[92]. Despite the fact that WWF had been involved in conservation work at the site for fifteen years and had made several grants to BHS

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[88] Ibid., at p. 350b-d.
[89] Ibid., at p. 351f.
[90] Ibid., at p. 351g-h. It was on this basis that Otton J. distinguished the case of *R* v. *Secretary of State for the Environment ex parte Rose Theatre Trust Co* [1990] 1 All E.R. 754 in which the named charity was denied standing to challenge the grant of a planning consent in respect of a historic site which it was hoping to save from development. The charity had been formed for the sole purpose of saving the site and could not, therefore, be said to have had a long standing interest in the matter.
[91] [1991] 2 P.L.R. 27.
[92] Ibid., at p. 29E-G.

Schiemann J. considered that it would not have enjoyed standing in its own right. This was because it had not been sufficiently involved in the specific planning decision which formed the basis of the application and had only joined in the proceedings at a late stage upon giving an undertaking to pay the respondent's costs in the event of the applicants being required to do so[93].

To date, this distinction between standing requirements in the respective realms of public and private law has been explicable on the basis that, in judicial review proceedings, there is usually a clear public interest issue at stake. Thus it is logical to afford standing to those groups which are concerned with the protection of such interests. The law of tort, on the other hand, is preoccupied with the protection of private interests. However, in an environmental context, this distinction between the realms of public and private law is somewhat of a fiction, as Betlem explains:

> "[M]ost legal systems purport to allocate general interests to the field of public law and limit private law to concrete, individual interests. However, this distinction breaks down in environmental law in that diffuse environmental damage is closely related to individual health interests, which are, of course, typical concrete private interests. Accordingly, private law remedies should be available alongside public law remedies such as judicial review."[94]

As will be seen in Chapter 4 there has been an attempt to blend public and private interests in this manner in the Netherlands where standing has in fact been extended to NGOs in respect of private actions in tort arising out of pollution.

5. COMMON LAW REMEDIES

A plaintiff will only go to the trouble of establishing a cause of action if he considers that an appropriate remedy is available. Common law remedies seek to compensate for any loss sustained, prevent future infringements of proprietary interests or rectify damage which has already occurred as a result of such infringements. This is achieved by means of the award of damages, the granting of various types of injunction, or the award of damages in lieu of an injunction. From an environmental perspective it is necessary to consider the extent to which these remedies coincide with environmental protection.

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93 Ibid., at p. 30B-C.
94 Betlem, G., "Standing for Ecosystems - Going Dutch" [1995] *Cambridge Law Journal* 153, at p. 154.

5.1 Damages

The guiding principle for the measure of damages is *restitutio integrum* which means that,

> "Where an injury is to be compensated by damages, in settling the sum of money to be given for reparation of damages you should nearly as possible get at that sum of money which will put the party who has been injured, or who has suffered, in the same position as he would have been in if he had not sustained the wrong for which he is now getting his compensation or reparation".[95]

Thus, in *Marquis of Granby* v. *Bakewell U.D.C.*[96], where the operator of a gas works had discharged poisonous effluent into a river over which the plaintiff had fishing rights, the compensation received equalled the cost of restocking the river in addition to an amount for the loss of food supply for other stocks.

However, in many cases concerning damage to land or buildings, the cost of restoring the property to its exact former state may be out of all proportion to the diminution in market value of the property caused by the harm. In this case damages will be calculated on the basis of the diminution in market value.[97] In an environmental context this means that whilst damages may compensate for the financial loss suffered by the plaintiff, they may not reflect the full costs of cleaning up pollution. This problem is examined in more detail below.

5.1.1 Exemplary Damages

These are an exception to the *restitutio in integrum* maxim and allow for an award over and above the normal quantum of damages where the defendant's conduct was calculated to make a profit which would exceed any damages payable, or, where there has been oppressive, arbitrary or unconstitutional action by servants of the government.[98]

In *Gibbons* v. *South West Water Services Ltd* [99] the plaintiffs had successfully brought an action in public nuisance, negligence, *Rylands* v. *Fletcher* and breach of statutory duty following an incident where the plaintiff's contractor deposited 20 tonnes of

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95 *Livingstone* v. *Rawyards Coal Co.* (1880) 5 App. Cas. 25, at p. 39, per Lord Blackburn.
96 (1923) 87 J.P. 105.
97 *Jones* v. *Gooday* (1841) 8 M. & W.
98 *Rookes* v. *Barnard* [1964] A.C. 1129.
99 [1992] 4 All E.R. 574.

aluminium sulphate into the public water supply. The plaintiffs sought exemplary damages on the grounds that the defendants had attempted to conceal the incident. However, the Court of Appeal did not consider that this was part of a calculated attempt to gain some financial advantage by deliberately perpetuating the nuisance. The plaintiffs also attempted to justify the award of exemplary damages under the second limb of the exception, namely oppressive conduct by a government servant. This argument was also rejected on the grounds that a statutory undertaker is not part of the government.[100]

It seems that the courts intend to take a restrictive view of the grounds on which exemplary damages can be awarded. In the *Gibbons* case the Court of Appeal accepted that the defendant's conduct had been high handed but were not prepared to extend the *restitutio* exception so as to penalize this type of behaviour.

5.1.2 Pure Economic Loss

As a general rule, damages may only be recovered in respect of loss which flows directly from physical harm[101]. In the absence of a special relationship between the parties, pure economic loss is not recoverable[102]. Thus it is necessary to establish a high degree of proximity, usually brought about by some prior undertaking between the parties[103], before damages for pure economic loss can be recovered. However, if this relationship is established by contract, the courts will not usually interfere with the apportionment of liability agreed between the parties as this would undermine the freedom to contract.[104]

The issue of economic loss is important in an environmental context in that the market value of property may be adversely affected by contamination, or even the possibility of contamination, by a pollutant. Diminution in market value will be classed as economic loss and hence irrecoverable unless it flows from actual physical damage to the property. This distinction is illustrated by two cases concerning claims for diminution in the market value of land alleged to have been caused by radioactive contamination.

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100 As Macrory, in "Damages in Nuisance", (1992) 214 *ENDS Report* 43 points out, the European Court of Justice would undoubtedly have classed the defendant as an emanation of the state as the incident occurred prior to privatisation. The status of privatised utilities is still not entirely clear.

101 *Sparton Steels and & Alloys Ltd.* v. *Martin & Co. (Contractors) Ltd.* [1973] Q.B. 27.

102 *Hedley, Byrne* v. *Heller* [1964] A.C. 465; *Muirhead* v. *Industrial Tank Specialists* [1986] Q.B. 507.

103 Somewhat analogous to the prior undertaking which had to be established before a negligence based action in case could be brought in Medieval times.

104 *Simaan General Contracting Co.* v. *Pilkington Glass Ltd. (No.2)* [1988] Q.B. 758; *Greater Nottingham Cooperative Ltd.* v. *Cementation Piling and Foundations Ltd.* [1989] Q.B. 71.

It will be recalled that in the aforementioned-mentioned case of *Merlin* v. *BNFL* the market value of the plaintiffs' property was dramatically reduced following publicity concerning levels of radiation in the immediate vicinity of the defendant's nuclear installation at Sellafield. It was alleged that there had been an escape of radionuclides from the installation in breach of the absolute duty imposed by section 7(1) of the Nuclear Installations Act 1965. Even if the plaintiffs had succeeded in establishing that emissions from Sellafield had increased levels of radiation in their property, it seems that the damages claimed would have been classed as economic and thus irrecoverable. The loss in market value claimed did not flow from any physical damage to the property itself; it had been the plaintiffs' contention that the alleged increased levels of radiation in the property constituted a health risk. Gatehouse J. was of the opinion that this did not constitute physical damage:

> "Personal injury or damage to property is a familiar enough phrase and in my judgment it means, as it does in other contexts, physical (or mental) injury or physical damage to tangible property...The plaintiff's argument that 'property' included the air space within the walls, ceilings and floors of (the house); that this has been damaged by the presence of radionuclides and the house rendered less valuable as the family's home, seems to me too far-fetched."[105]

As the 1965 Act did not define 'property damage' Gatehouse J. decided to apply the common law approach. This led him to the conclusion that, as the loss claimed was purely economic and as there was no special relationship or prior undertaking between the parties, damages would not have been recoverable in respect of the diminution in market value of the property:

> "I can see no reason why compensation under the Act of 1965 should extend to pure economic loss when such loss would not be recoverable at common law...No special relationship existed between the defendants and the plaintiffs, who were merely part of the general public living in the Sellafield area, such as would give rise to a duty of the *Hedly Byrne & Co. Ltd.* v. *Heller & Partners Ltd.* [1964] A.C. 465 type, so it seems to me that any such claim at common law must have failed: see, for example, the judgments of the Court of Appeal and particularly Bingham L.J. in *Simaan General Contracting Co.* v. *Pilkington Glass Ltd.* (No. 2) [1988] Q.B. 758."[106]

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105 [1990] 3 W.L.R. 383, at p. 394E-F.
106 Ibid., at p.395G-H.

The *Merlin* decision was distinguished in *Blue Circle Industries Plc* v. *Ministry of Defence*[107]. The plaintiffs owned a large estate which adjoined the Aldermaston Atomic Weapons Establishment (AWE). As a result of heavy rainfall ponds on the AWE site overflowed onto the plaintiffs property thereby contaminating a small area with radioactive material. The contamination did not come to light until the plaintiffs were in negotiation for the sale of the site at a cost of approximately £10m. Following disclosure of the information the prospective purchaser withdrew from negotiations. The defendants accepted liability for the escape of radioactive materials and paid for the costs of removing the contaminated soil which amounted to £350,000. However, they refused to pay further costs in recognition of the diminution in market value of the land and the reduction of its saleability; the plaintiffs sought to recover these costs under section 12 of the Nuclear Installations Act 1965 and the rule in *Rylands* v. *Fletcher*. Carnwath J. reaffirmed that damage both for the purposes of the 1965 Act and the common law denotes physical damage to tangible property. Although the levels of radiation did not constitute a health risk the contamination nevertheless amounted to a physical change which impaired the use and hence value of the property. As radiation levels exceeded those permitted by regulation (Radioactive Substances Act 1960) the contaminated soil could not be left *in situ*[108]; thus the land was damaged in the sense that it could not be used for its original purpose until remediation measures had been taken[109]. Thus damages in respect of the diminution in market value of the property were not purely economic in that they flowed from physical damage. Accordingly, the plaintiffs were awarded damages amounting to the full clean up cost plus the income lost as a result of the failure to sell the property (subject to a 25% discount to reflect the possibility that the property might not have been sold in any case); this amounted to £5m.

This case is significant in that it demonstrates that the ability of the plaintiff to recover damages in respect of contamination may depend upon how damage is defined. In the *Blue Circle* case physical damage was determined by reference to whether radiation levels exceeded regulatory standards. Had radiation levels not exceeded these standards it is likely that the loss would have been classed as purely economic. This is an issue which will be returned to in due course.

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107 [1997] 1 Env. L.R. 341.
108 Ibid., at p. 346-347.
109 Ibid. There was authority for the proposition that property which has been contaminated without physical alteration of its structure will be regarded as damaged in the sense that it cannot be used to its full extent until it has been cleaned; part of the value of property resides in its usability. See The *Orjula* [1995] 2 LI.L.R. 395 and *Hunter* v. *LDDC* [1996] 2 W.L.R. 348.

5.2 Injunctions

These are discretionary remedies originating from the equitable jurisdiction of Chancery. They are most frequently granted in respect of continuing trespasses or nuisances although there is no theoretical reason why they should not be issued to restrain the continuation of any tort of any kind. As a discretionary remedy the courts are free to take into account a range of factors including the seriousness of the harm and the effect the granting of the injunction would have on the plaintiff. Turner L.J. summed up the manner in which courts should approach the use of injunctions in *Goldsmith* v. *Tunbridge Wells Improvement Commissioners*:

> "It is not in every case of nuisance that this Court should interfere. I think that it ought not to do so in cases in which the injury is merely temporary or trifling; but I think that it ought to do so in cases in which the injury is permanent and serious: and in determining whether the injury is serious or not, regard must be had to all the consequences which may flow from it."[110]

5.2.1 Prohibitory Injunctions

These orders require the cessation of a continuing tortious activity and are thereby closely associated with the restoration of proprietary interests; namely, the rights to use and enjoyment and exclusive possession. Hence it is not necessary to establish physical damage before such relief is granted. As the remedy is discretionary and requires the courts to consider all the consequences flowing from its use, it is inextricably linked with the land use conflict aspects of nuisance. This is because the courts must balance the harm suffered by the plaintiff against the consequences of requiring the defendant to cease the offending activity. It may often be the case that the nuisance can be abated without significant loss to the defendant[111]. However, where prohibition of the activity would result in substantial loss to the defendant or even the closure of the defendant's plant, the court may be tempted to balance the utility of the defendant's activity against the usually conservatory land use interests of the plaintiff. In the past there has been strong judicial disapproval of this approach, for example, in *Shelfer* v. *City of London Electric Lighting Co.*, Lindley L.J. stated:

> "The circumstance the wrongdoer is in some sense a public benefactor...[has never] been considered a sufficient reason for refusing

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[110] (1866) 1 Ch. App. 349.

[111] As in the New Zealand case of *Bank of New Zealand* v. *Greenwood* [1984] 1 N.Z.L.R. 525 where it was held that the nuisance caused by the glare of the defendant's windows could be abated by the installation of blinds in the plaintiff's premises at the defendants' expense.

> to protect by injunction an individual whose rights are being persistently infringed. Expropriation, even for a monetary consideration, is only justifiable if Parliament has sanctioned it".[112]

Thus, on occasion, the courts have been prepared to grant prohibitory injunctions at the expense of the defendant's business. Not least of these few examples is the case of *St. Helens Smelting* v. *Tipping*. The availability of damages in lieu of an injunction means that it is rare for courts to take this step with the result that the remedy is more readily available where the consequences are less drastic for the defendant. Ball and Bell cite the example of the *Anglers' Co-operative* which has a 100% success rate in obtaining injunctive relief to restrain the continuing pollution of rivers by trade effluent.[113]

5.2.2 Quia Timet Injunctions

In exceptional cases, this type of injunction may be obtained, where, if allowed to continue, the defendant's conduct would inevitably result in harm to the plaintiff. To give a hypothetical example, if leaking barrels of chemicals were brought onto land adjacent to a waterway, a down catchment riparian landholder may be able to obtain an injunction requiring removal of the barrels before any of the chemicals seep into the waterway. In practice, plaintiffs have rarely been able to satisfy the court that the apprehended harm is imminent[114] with the result that the remedy has been little used. In any case, in the hypothetical example given above, it is unlikely the down catchment owner would be aware of the potential harm until it was too late.

5.2.3 Mandatory Injunctions

This type of injunction can be used to require the rectification of physical damage which has already occurred. In *Redland Bricks Ltd.* v. *Morris* Lord Upjohn set out the circumstances where the remedy should be used. Firstly, where damages would be an inadequate remedy; this may include situations in which the defendant is best placed to rectify the damage himself. For example, where a contractor has caused damage to neighbouring property during the course of operations and is still on site. In the *Redland Bricks* case there was an immediate threat of subsidence occurring on the plaintiff's land unless the defendant took preventative action. The second instance his Lord Upjohn gave of where the remedy should be used was in cases in which the defendant had attempted to steal a march on the plaintiff or the court. This would

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112 [1895] 1 Ch. 287, at pp. 315-316.
113 Ball, S., and Bell, S., *Environmental Law*, 2nd. edn., 1994, Blackstone Press Ltd., at p. 166.
114 *Att. Gen.* v. *Nottingham Corporation* [1904] 1 Ch. 673; *Redland Bricks Ltd.* v. *Morris* [1970] A.C. 652.

include cases in which the defendant has hastened to complete an activity with a view to presenting the court with a *fait accompli.* As a final point, his Lordship stated that the injunction should specify the remedial works to be carried out as precisely as possible.

Prima facie, this remedy would appear to provide the ideal means of requiring the defendant to rectify any lasting damage caused by pollution or to clean up types of pollution which accumulates without dispersing. This latter category would encompass contaminated land. However, it is necessary to take account of the decision in *Jordon* v. *Norfolk County Council and another*[115]. In this case, the defendants had purchased land for the purposes of development. They mistakenly believed that the parcel of land they had purchased included part of a disused railway embankment belonging to the plaintiff. Their contractors trespassed upon the land and chopped down all the trees which grew on it and dug a drain. The plaintiff obtained a mandatory injunction requiring the removal of the drain and the replacement of trees so far as was reasonably practicable and to the reasonable satisfaction of the plaintiff's experts. The plaintiff's expert devised a scheme of works which took no account of cost and was designed to restore the land to the exact state it had been in before the trespass. This entailed obtaining fully mature trees with a girth of 60 - 70 centimetres and transporting them to the site at huge expense and the installation of complex irrigation equipment whilst the trees became established. The estimated cost of the works came to £231,000; the diminution in the value of the land caused by the trespass had only been estimated at £25,000. The defendants sought to have the order set aside and replaced with a less ambitious scheme requiring replacement of the trees with younger trees at a cost of £12,000. It was argued that the phrase 'reasonably practicable' embraced financial viability and not just that which was physically possible.

It was held by Sir Donald Nicholls V.C. that the term 'Reasonably practicable' embraced cost considerations and in determining costs regard should be had to the value of the land:

> "In determining what should be the extent of the tree, hedge and shrub replacement, the landscape architect should prescribe items in so far, but only in so far, as their cost would be reasonable, having regard to the nature and value of the site".[116]

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115 [1994] 1 W.L.R. 1353.
116 Ibid., at p. 1358B.

In this case the scheme, proposed by the plaintiff, cost several times the market value of the land even before taking into account the diminution in value brought about by the removal of the trees. Hence the scheme could not be regarded as meeting the 'reasonably practicable criteria'. Thus, the approach adopted in this case mirrors the assessment of damages, whereby, the costs of remediation will not be awarded if they are out of proportion to the diminution in market value of the land.

5.2.4 Damages in Lieu of an Injunction

The power to grant damages in lieu of an injunction was first conferred on Chancery by Lord Cairn's Act of 1858 and is now vested in the High Court by virtue of section 50 of the Supreme Court Act 1981. They differ from ordinary damages in that they may be granted in respect of future damage which may occur in the absence of an injunction.

The issue of when damages should be awarded in place of an injunction has given rise to much debate. The main problem is that the award of damages in lieu of an injunction amounts to a compulsory purchase of the plaintiff's rights to the undisturbed use and enjoyment or exclusive possession of his property. This is because the sum is regarded as being in full and final settlement of the dispute with the result that the plaintiff may not return to court on future occasions if the nuisance continues[117]. Thus, unless the remedy is used with care, it can give rise to an extreme unfettered market philosophy which takes no account of externalities. The courts have been aware of this problem for some considerable time. In *Shelfer* v. *City of London Electric Lighting Co.*, Lindley L.J. stated that, in granting Chancery the power to award damages in lieu of an injunction, the legislature had not:

> "Intended to turn the Court into a tribunal for legalising wrongful acts; or in other words, the Court has always protested against the notion that

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[117] In fact this point has caused the courts some conceptual difficulties in the past. In *Anchor Brewhouse Developments Ltd.* v. *Berkley House (Docklands Developments) Ltd.* (1987) 38 B.L.R. 87 Scott J. considered that damages could not put the defendant in the same position as someone who enjoys an easement over the neighbouring property. Hence, in theory the plaintiff would be in a position to claim further damages on limitless future occasions for as long as the trespass (as it was in this case) continued. However, this view was firmly rejected by the Court of Appeal in *Jaggard* v. *Sawyer* [1995] 1 W.L.R. 269. Millet L.J. dismissed Scott J.s argument as "fallacious" on the grounds that, "...it is not the award of damages which has the practical effect of licensing the defendant to commit the wrong, but the refusal of injunctive relief. Thereafter the defendant may have no right to act in the manner complained of, but he cannot be prevented from doing so. The court can in my judgment properly award damages 'once and for all' in respect of future wrongs which an injunction would have prevented. The doctrine of res judicata operates to prevent the plaintiff and his successors in title from bringing proceedings thereafter to recover even nominal damages in respect of further wrongs for which the plaintiff has been fully compensated.", per Millett L.J. at 285H-286B.

> it ought to allow a wrong to continue simply because the wrongdoer is able and willing to pay for the injury he may inflict".[118]

Despite this assertion, the courts sometimes calculate the quantum of damages on the basis of what the defendant would have had to pay the plaintiff for the right to continue the activity[119]. In view of Lindley L.J.'s caution, A.L. Smith L.J. (also in *Shelfer*) set out a number of guidelines for determining whether the court should exercise its discretion to grant damages in lieu:

> "(1) If the injury to the plaintiff's legal rights is small, (2) And is one which is capable of being estimated in money, (3) And is one which can be adequately compensated by a small money payment, (4) And the case is one in which it would be oppressive to the defendant to grant an injunction:- then damages in substitution for an injunction may be given"[120].

The court must take particular care when applying the 'oppression' criteria; in *Jaggard* v. *Sawyer* Sir Thomas Bingham M.R. noted:

> "It is important to bear in mind that the test is one of oppression, and the court should not slide into application of a general balance of convenience test."[121]

This refers to the fact that, in deciding whether an injunction would be oppressive to the defendant, courts should not be drawn into consideration of the merits of the defendant's activity. In his dissenting judgment in *Miller* v. *Jackson*[122], which concerned whether injunctive relief should be available in order to protect the plaintiff from cricket balls hit for six, Lord Denning M.R. was in favour of such a 'public interest' approach:

> "In this case it is our task to balance the right of the cricket club to continue playing cricket on their cricket ground - as against the right of the householder not to be interfered with...The *public* interest lies in protecting the environment by preserving our playing fields in the face of mounting development, and by enabling our youth to enjoy all the benefits of outdoor games, such as cricket and football. The *private*

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118 [1895] 1 Ch. 287, at pp. 315-316.
119 See, for example, *Bracewell* v. *Appleby* [1975] 1 Ch. 406: "...I think that for the purpose of estimating damages they and the other servient owners in Hill Road, albeit reluctant, must be treated as being willing to accept a fair price for the right of way in question...", per Graham J. at p. 419G-H.
120 [1895] 1 Ch. 287, at pp. 322-323.
121 [1995] 1 W.L.R. 269, at p. 283B.
122 [1977] 1 Q.B. 966.

interest lies in securing the privacy of his [the plaintiff's] home and garden without intrusion or interference by anyone...In a new situation like this, we have to think afresh as to how discretion should be exercised...Either the cricket club has to move: but goodness knows where. I do not suppose for a moment there is any field in Lintz to which they could move. Or Mrs Miller must move elsewhere. As between their conflicting interests, I am of [the] opinion that the public interest should prevail over the private interest. The cricket club should not be driven out"[123].

Cumming-Bruce L.J. found academic support for this view and quoted from *Spry on Equitable Remedies* (1971), p. 365:

> "Regard must be had 'not only to the dry strict rights of the plaintiff and the defendant, bit also the surrounding circumstances, to the rights of interests of other persons which may be more or less involved.' So it is that where the plaintiff has prima facie a right to specific relief, a court of equity will, if occasion should arise, weigh the disadvantage or hardship which he will suffer if relief were refused against any hardship or disadvantage which would be caused to third persons or to the public generally if relief were granted".

This reasoning was applied at first instance in *Kennaway* v. *Thompson*[124] in which the plaintiff sought injunctive relief against a noise nuisance created by a power boat club which used a nearby lake:

> "The question remains as to whether I should grant an injunction. I have considered the question most carefully and as to whether damages in this case would meet the position - and substantial damages. I have come to the conclusion from what I have heard there is considerable public interest in this club, that the public do attend in large numbers and that it would be oppressive in all the circumstances to grant an injunction other than the injunction I have indicated which would merely cause further litigation."[125]

On appeal the public interest approach was firmly rejected and the Court of Appeal reaffirmed Lindley L.J.'s rejection, in *Shelfer*, of the view that the utility of the defendant's conduct should be taken into account:

> "Lord Denning M.R.'s statement that the public interest should prevail over the private interest runs counter to the principles enunciated in

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[123] Ibid, at pp. 981D-982C.
[124] [1981] 1 Q.B. 88.
[125] Ibid., at p. 92C.

> Shelfer's case and does not accord with Cumming-Bruce L.J.'s reason for refusing an injunction. We are of the opinion that there is nothing in *Miller* v. *Jackson* [1977] Q.B. 966 binding on us, which qualifies what was decided in *Shelfer's* case...which give support for the proposition that the public interest should prevail over the private interest must be read subject to the decision in *Shelfer's* case."[126]

At present the conduct of the defendant appears to be the most important factor when deciding whether to exercise the discretion; in *Jaggard* v. *Sawyer*, Sir Thomas Bingham M.R. was of the opinion that:

> "It would weigh against a finding of oppression if the defendants had acted in blatant and calculated disregard of the plaintiff's rights, of which they were aware." [127]

This would be case where the defendant had deliberately set out to present the court with a *fait accompli* by, for example, hurrying to complete a building in breach of covenant. In such circumstances the court may decide to grant an injunction[128]; however, it seems that an honest yet mistaken belief that an activity was lawful will not count against the defendant[129].

Despite periodic assertions that injunctive relief should only be withheld in limited circumstances it seems that, where there are clear economic benefits associated with the defendant's activity, the court may be reluctant to grant injunctive relief. One notable exception concerns the Irish case of *Bellew* v. *Cement Co. Ltd*[130]. where an injunction was granted which had the effect of closing the defendant's works for three months despite the fact that it was the only cement factory in Ireland and building was a national priority at the time. However, on other occasions the courts have used the discretion as a convenient compromise solution which recognises the wrong suffered by the plaintiff whilst relieving them of the burden of having to determine which land use should predominate. This view was exemplified by Lord Denning M.R. in the Court of Appeal decision in *Allen* v. *Gulf Oil Refining Ltd*:

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126 Ibid., at p. 93F-G.
127 [1995] 1 W.L.R. 269, at p. 283D.
128 *Harrow London Borough Council* v. *Donohue*[1993] N.P.C. 49.
129 See the judgment of Millett L.J. in *Jaggard* v. *Sawyer* [1995] 1 W.L.R. 269, at p. 289A: "In considering whether the grant of an injunction would be oppressive to the defendant, all the circumstances of the case have to be considered. At one extreme, the defendant may have acted openly and in good faith and in ignorance of the plaintiff's rights, and thereby inadvertently placed himself in a position where the grant of an injunction would either force him to yield to the plaintiff's extortionate demands or expose him to substantial loss".
130 [1948] Ir. R. 61.

> "I realise that there is a difficulty about an injunction. No court would wish to grant an injunction to stop a great enterprise and render it useless. But that difficulty is easily overcome. By means of Lord Cairn's Act, the Chancery Amendment Act 1858, the court can award damages to cover past or future injury in lieu of an injunction".[131]

One solution would be to for the courts to adopt the 'public interest' approach advocated by Lord Denning M.R. in *Miller* v. *Jackson*; this would enable the court to consider the wider environmental consequences of the *plaintiff's* activity. However, it would also enable the court to consider the wider economic benefits of the *defendant's* activity. Had such an approach been applied in *Bellew* the court would undoubtedly have found that the public interest demanded that the defendant's concrete production should continue unabated. Furthermore, the court may be led into a cost/benefit analysis of the respective merits of the competing land uses. As the economic benefits of industry such as employment, contribution to gross domestic product etc. are easier to quantify in monetary terms than environmental benefits,. the court is likely to be drawn to the conclusion that the industrial use should prevail. This is most clearly demonstrated by the US case of *Boomer* v. *Atlantic Cement Co*[132]. in which residents sought injunctive relief to prevent the continuance of a nuisance caused by smoke, dust and noise emanating from the defendant's facility. Bergan J. stated that "the ground for denial of injunction...is the large disparity in economic consequences of the nuisance and of the injunction". The court calculated that the costs of relocating the plant would amount to $45m whereas the total loss incurred by the residents was calculated as amounting to a mere $185,000. On this basis the court was inevitably led to the conclusion that damages should be awarded in lieu of an injunction[133].

The problem with making direct cost comparisons of this type, whereby the value of a land use is measured in monetary terms, is that it takes a very narrow view of value. As the *Boomer* case demonstrates, it most cases this approach will lead to the inevitable conclusion that an industrial land use should prevail. This is simply because the benefits of industrial activities, such as contribution to the economy, are easier to quantify in monetary terms than the need for environmental protection. Economists have attempted to devise means of pricing conservatory land uses so as to redress the balance.[134] However, these values are still likely to be outweighed by the economic

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131 [1979] 3 W.L.R. 523, at p. 532F.
132 26 N.Y. 2d 219, 309 N.Y.S. 2d 312, 257 N.E. 2d870 (Court of Appeals New York, 1970).
133 This decision broke new ground in that there was no equivalent of Lord Cairn's Act in American law which allowed for the award of damages in lieu of an injunction.
134 It is relatively easy to quantify certain environmental costs such as the loss in market value of

benefits of industrial activities.[135] There is also a fundamental objection to such an approach which goes to the core of the purpose of tort in an environmental context. Pricing natural resources converts them into tradable commodities which can be bought at the right price. Such an approach invites the economic analysis of tort; for reasons which are discussed in the next chapter this is not conducive to environmental protection.

6. CONCLUSIONS

The difficulties associated with establishing liability in tort for environmental damage, described above, severely limit the role of civil liability in an environmental context. In some cases it is necessary to establish fault on the part of the defendant; in negligence, this entails demonstrating that, not only was the defendant aware of the hazard created by his activity, but that he also failed to take adequate steps to negate the hazard. The complexity of many industrial processes, which are capable of causing pollution, renders it extremely difficult for the plaintiff to establish that the defendant failed to take these steps. Furthermore, whether or not it is necessary to establish fault in a particular case, the plaintiff must establish a causal link between the defendant's activity and the harm. Once pollution is dispersed into the environment it becomes increasingly difficult to trace the damage pathways from source to impact. These difficulties are multiplied in the case of toxic micropollutants where the harmful substances are invisible and their effects insidious. It seems that existing common law tests for establishing causation have failed to keep pace with modern scientific

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damaged crops or the costs of removing contaminated soil. However, intangible environmental benefits, such as the pleasure one derives from a landscape, are extremely difficult to cost. Economists have experimented with a number of different valuation techniques over the past thirty years. Hedonic pricing methods examine the differences in property prices and rents payable in areas subject to differing degrees of pollution. Thus, environmental harm in the vicinity of the property is regarded as causing a loss in market value of the property. Contingent valuation methods (CVM) relies upon detailed surveys designed to ascertain how much a person would be willing to pay for a change in the quality of the environment. For a review of these methods see Navrud, S, and Pruckner, G.J. (1996) "Environmental Valuation - To use or not to use? A comparative study of the United States and Europe", in Environmental and Resources Economics; Bateman, I.J., and Turner, R.K. (1993), "Valuation of the Environment, Methods and Techniques, in R.K. Turner (ed.), *Sustainable Environmental Economics and Management*, Belhaven Press; Clayton, M.H., and Radcliffe, N.J. (1996), *Sustainability: A Systems Approach*, Earthscan Publications, at pp. 109-111.

[135] Various CVM studies have been conducted in the US to determine the extent to which people value conservatory uses of natural resources. Results have been compiled by ERM Economics (1996), (*Economic Aspects of Liability and Joint Compensation Systems: Valuation of Environmental Damage*, European Commission DGXI). One study (Brookshire et al, 1982) indicated that a resident would be prepared to pay between $14.54 to $20.31 per month to have air quality restored from poor to good. Thus if such a calculation had been made in the *Boomer* case, in order to price the value of the plaintiffs' land use, this figure would have been multiplied by the number of residents involved in the dispute. Clearly, as the number of residents involved was low, this amount would not have approached the value of the defendants activity.

techniques for identifying links between, for example, radiation and various forms of cancer. Thus, the need to establish factors such as fault and causation places high costs on the plaintiff, often referred to as 'transaction costs'. The obvious effect of these costs is that a potential plaintiff may be dissuaded from pursuing litigation.

The other major limitation of tort is that it focuses on the loss suffered by the individual rather than the loss suffered by the environment. As a result, although the level of damages awarded may reflect the personal financial loss of the plaintiff, they may not provide sufficient funds to effect a full environmental clean-up. Furthermore, the fact that liability is contingent upon personal loss means that, in the absence of such loss, no one may be in a position to instigate proceedings. At present, environmental pressure groups, at least in the UK, are not afforded standing to seek civil remedies on behalf of the environment. Hence, in such circumstances it is necessary to rely entirely upon regulatory responses.

Thus, it seems that the use of tort as a means of environmental protection will continue to be extremely limited, unless, there is a fundamental change of emphasis from the interests of the parties to the interests of the environment. In the next chapter it will be considered whether this is possible in conceptual terms and, furthermore, whether such a development would be desirable.

Chapter 4

The Role of Tort in an Environmental Context

1. INTRODUCTION

The procedural difficulties associated with establishing liability in tort and the fact that it focuses on personal loss, as opposed to environmental damage, must inevitably lead to consideration of whether there remains a role for civil liability in this context. The occasional assertion of private rights, which may or may not produce any collateral environmental benefit, is unlikely to have a significant impact on industry. Due to the limitations of the common law, environmental protection has largely been perceived as a matter for regulation. In the US case of *Boomer* v. *Atlantic Cement*, Bergan J. stated that it is pointless to attempt to settle matters of public interest as a by-product of resolving private disputes.[1] Thus, he argued, it was entirely inappropriate to impute public policy considerations into the consideration of the case. This assumes that private law and public law operate in entirely different spheres and that private law should in no way encroach upon the territory of public law. Bergan J. clearly perceived matters of environmental policy as falling within the realm of public law, whereas, interference with private rights was perceived as falling squarely within the realm of private law. Hence, it seems that Bergan J. was of the opinion that ones private interests in, for example, land are divisible from the public interest in environmental protection. However, as will be seen below, the objectives of public and private law and not necessarily mutually exclusive and there is a role for both in the implementation of environmental policy.

The purpose of this Chapter is, therefore, to identify a role for the use of tort in a system of environmental regulation which is dominated by public law responses. This entails consideration of two main issues. Firstly, it is important to have regard to theoretical perspectives on the role of tort with a view to determining whether it is conceptually possible to harness private mechanisms in pursuit of public interest

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[1] 26 N.Y. 2d 219,309 N.Y.S. 2d 312, 257 N.E. 2d870 (Court of Appeals New York, 1970)."Effective control of air pollution is a problem presently far from solution even with the full public and financial powers of government. In large measure adequate technical procedures are yet to be developed and some that appear possible may be economically impracticable.

It seems apparent that the amelioration of air pollution will depend on technical research in great depth; on a carefully balanced consideration of the economic impact of close regulation; and of the actual effect on public health. It is likely to require massive public expenditure and to demand more than any local community can accomplish and to depend on regional and interstate controls.

A court should not try to do this on its own as a by-product of private litigation and it seems manifest that then judicial establishment is neither equipped in the limited nature of any judgement it can pronounce nor prepared to lay down and implement an effective policy for the elimination of air pollution. This is an area beyond the circumference of one private law suit. It is a direct responsibility for government and should not thus be undertaken as an incident to solving a dispute between property owners and a single cement plant - one of many in the Hudson River valley."

objectives. Assuming that this is the case, it is then necessary whether there is a practical need to develop a specific environmental role for civil liability.

2. THEORETICAL PERSPECTIVES ON THE ROLE OF TORT

Various attempts have been made to establish a unifying ('monistic') theory of the purpose of tort; it is possible to identify two monistic schools of thought.[2] The proponents of the economic analysis of tort argue that the purpose of the law should be to ensure an efficient allocation of resources. The more traditional view is that the law of tort is founded on principles of 'corrective' justice in that it reflects the moral obligation of one individual to compensate another for the loss he has caused. In contrast to the monists, the pluralists have abandoned the quest for theoretical purity and argue that tort is multi-faceted and cannot be explained by reference to a single overriding principle.

It is necessary to explore these ideas in more depth in order to determine whether it is possible to identify a sound conceptual basis for an environmental application of tort.

2.1 The Economic Analysis of Tort

Economists and lawyers have differing views regarding the proper function of tort in that, whereas most lawyers are concerned with rectification of harm suffered by an individual, the proponents of the economic approach are of the opinion that the courts should strive to ensure that the solutions at which they arrive are efficient in economic terms. As will be explained in more detail below, the effect of this is that, whilst lawyers consider that the role of tort should be to protect certain rights from harm, certain economists consider that the role of tort should be to provide a framework in which the market is left to determine whether such rights are worthy of protection.

According the economic analysis of tort, one of society's main objectives is to achieve 'wealth maximization'. This is achieved through allocating resources to their most highly valued uses as determined by voluntary transactions between individuals. Since wealth maximization is central to the economic approach it is worth quoting Posner's definition in its entirety:

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[2] See Englard, I. (1993), *The Philosophy of Tort Law*, Dartmouth, at p. 30.

"By 'wealth maximization' I mean the policy of trying to maximize the aggregate value of all goods and services, whether they are traded in formal markets (the usual 'economic' goods and services) or (in the case of 'non-economic' goods and services, such as life, leisure, family and freedom from pain and suffering) not traded in such markets. 'Value' is determined by what the owner of the good or service would demand to part with it or what a non-owner would be willing to pay to obtain it - whichever is the greater. 'Wealth' is the total value of all 'economic' and 'non-economic' goods and services and is maximized when all goods and services are, so far as is feasible, allocated to their most valuable uses."[3]

Posner argues that the law of tort should reflect this objective.[4] Of course, the problem with this approach is that buyers and sellers are normally motivated by self interest and do not, as a rule, consider the effect of a transaction on third parties. This gives rise to a phenomenon known by economists as 'externalities' which constitute un-wanted by-products caused by the operation of the free market; pollution is a classic example of an externality.[5] Thus, an agreement reached between a property developer and an industrial concern to build a new facility may be mutually beneficial as far as the parties to the agreement are concerned, however, it may impose costs on neighbours in the form of pollution.

Economists have long recognized this problem. However, they have proposed radically different solutions. One school of thought was of the opinion that the market should be regulated in a manner which punished those who failed to take externalities into account . For example, Pigou[6] proposed the introduction of a punitive tax on pollution; to this day such taxes are often referred to as 'Pigouvian'. However, another group of more radical economists, from the opposing 'Chicago school', were in favour of a less interventionist approach which would allow the market to find its own solutions to such problems. Their cause was greatly advanced by the publication of Coase's famous paper on social cost the underlying thesis of which is now commonly referred to as the 'Coase theorem'[7]. This appeared to provide a theoretical framework for a market solution to the problem of externalities with minimal intervention from

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[3] Posner, R.A. (1995), "Wealth Maximization and Tort Law: A Philosophical Inquiry", in D.G. Owen (ed.), *Philosophical Foundations of Tort Law*", Oxford/Clarendon Press.
[4] Ibid.
[5] See Posner, R.A. (1986), *Economic Analysis of Law*, Little Brown & Co., at p. 343: "Monopoly, pollution, fraud, mistake, mismanagement, and other unhappy by-products of the market are conventionally viewed as failure's of the market's self-regulatory mechanisms and therefore as appropriate occasions for public regulation".
[6] Pigou, A.C., *The Economics of Welfare* (4th edn. 1932).
[7] Coase, "The Problem of Social Cost", (1960) 3 *Journal of Law and Economics* 1.

the law. In short, the theorem states that, provided there are no obstacles to bargaining (or transaction costs), the parties will reach their own agreement as to the most efficient allocation of the resource irrespective of any solution imposed by the court.

When viewed at face value the theorem appears utterly unrealistic in that it relies upon the existence of a state of affairs, namely zero transaction costs, which cannot exist in reality[8]. However, as Coase himself was at pains to point out, the theorem should not be taken literally, [9]rather, by illustrating the irrelevance of the law in a world of zero transaction costs, Coase hoped to illustrate the vital role which the law plays in a world of high transaction costs:

> "The world of zero transaction costs has been described as a Coasian world. Nothing could be further from the truth. It is the world...I was hoping to persuade economists to leave...
>
> ...The same approach which with zero transaction costs, demonstrates that the allocation of resources remains the same whatever the legal position, also shows that, with positive transaction costs, the law plays a crucial role in determining how resources are used."[10]

In practice, the economic approach is crystallized by the issue of the purpose of injunctive relief. According to the economic view, the function of the law of tort is to improve the bargaining position of, for example, neighbours affected by noise or fumes so as to enable them to reach a settlement with the polluter. Thus the remedy of injunctive relief is regarded as an instruction to the parties to bargain rather than a once and for all prohibition on the continuance of the activity. In other words, it merely serves to prevent a polluter from expunging a neighbour's right to the undisturbed enjoyment of his property without first offering compensation. The assumption is that the price at which the neighbour is prepared to settle will reflect the value of his use of the resource. In the words of Landes and Posner the effect of injunctive relief is, therefore, to channel transactions to the market[11].

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[8] The theorem makes certain assumptions; for example, it assumes that there are no information costs. As the discussion in the previous chapter demonstrates, in many cases involving environmental damage, the plaintiff must undertake expensive investigations in order to establish causation. Thus, the production of this *information* gives rise to high information costs.
[9] See Dnes, A.W. (1996), *The Economics of Law*, International Thomson Business Press, at p.180.
[10] Coase, R.H. (1988), "Notes on the Problem of Social Cost", in *The Firm, the Market and the Law*, University of Chicago Press.
[11] Landes, W.M., and Posner, R.A. (1988), *The Economic Structure of Tort Law*, University of Chicago Press, at p. 31.

Veljanowski has applied this analysis to the case of *Bellew* v. *Cement Co. Ltd.*[12] in which, it will be recalled, the court granted injunctive relief in order to enjoin the emission of dust and noise from a cement works despite the fact that building was a national priority at the time:

> "[T]he critical literature on the law of nuisance has often claimed that the injunction is a blunt instrument because it freezes land use, and that the doctrinal framework does not take sufficient account of the benefits of the defendant's activities. The most extreme case of this kind is *Bellew* v. *Cement Co. Ltd.*, where the court awarded the plaintiff an injunction that would have halted the operations of the only cement-producer in the Irish Republic at a time when building was an urgent public necessity. The courts seem in these rights-based torts often not to 'balance the equities' in a way that would be implied by economic consideration. This, however, overlooks the fact that in many of these situations the parties are in a position to bargain both before and after litigation. *The judges determine, not a final solution which imposes on the parties some immutable set of consequences, but the starting points for negotiations between the disputing parties. A great deal of the law of nuisance can be viewed as a framework for bargaining, either preventatively if the law is clear, or after the injunction has been granted.* It is naive to assume, as does much legal discussion, that when the stakes at hand are so disproportionate and the defendant stands to lose so much, as in *Bellew*, he would not be driven to bargain with the plaintiff."[13] [emphasis added]

However, it is also recognized that the parties may not bargain *around* an injunction in which case the court should impose its own settlement by making an award of damages. This may occur in circumstances where the pollution is diffuse and the number of victims is large. In such circumstances it may be impractical to expect the polluter to reach an individual settlement with each victim[14]. Obstacles to bargaining may also occur where there are relatively few parties involved as a result of the 'hold out' phenomenon which simply means that, where the stakes for the polluter are high, one of the victims may 'hold out' for a settlement which is in excess of offers which have already been made to other victims[15]. Even where there are only two parties to a transaction, namely one victim and one polluter, there is still no guarantee that the

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12 [1948] I.R. 62.
13 Veljanowski, C. (1986), "Legal Theory, Economic Analysis and Tort", in, Twining (ed.), *Legal Theory and Common Law*, Basil Blackwell.
14 See Cooter, R., and Ulen, T., *Law and Economics*, Addison-Wesley, 1997, at p.171.
15 See Landes and Posner, op. cit., p. 45.

parties will bargain as a result of the 'bilateral monopoly' problem which occurs where the victim refuses to settle at any price[16].

The US case of *Boomer* v. *Atlantic Cement*[17] is often used as a case study for demonstrating how the courts should apply this approach in practice. It will be recalled that this action also concerned an application for injunctive relief brought by the neighbours of a cement works in respect of noise and dust emanating from the facility. Bergan J. conducted a cost/benefit analysis between the cost to the cement works of having to relocate and the costs incurred by the plaintiffs. This inevitably led to the conclusion that injunctive relief should be denied as the costs to the defendant would far outweigh the costs incurred by the plaintiffs. The authorities on the economic analysis of law agree with the outcome in this case although they disagree with the reasoning used to arrive at the decision[18]. The consensus is that, given the fact that courts are not very good at conducting a cost benefit analysis between competing land uses, the decision should have been based on whether there was any likelihood of the parties negotiating a settlement between themselves. This decision should have been reached on the basis of whether the level of transaction costs (which it will be recalled constitute obstacles to bargaining) were high or low. In this case Landes and Posner were of the opinion that transaction costs were high in that, as the stakes were high, there was a risk of the 'hold out' phenomenon coming in to play. It was, therefore, appropriate to award damages in lieu of an injunction:

> "Each party would have tried to acquire as much of the bargaining profit as possible, and given the large stakes to each of a successful outcome of the negotiation, both might have invested large amounts of time and money in hard bargaining. These transaction costs were avoided by the Court's manner of deciding the case."[19]

The practical result of this approach, as the proponents of the economic analysis admit, is that the courts would end up substituting an award of damages in almost all cases[20]. A neighbour who values the undisturbed use of his property beyond any price which the polluter is prepared to pay would, according to this analysis, be regarded as an unscrupulous individual who is attempting to extort an exorbitant offer from the polluter in return for releasing him from the threat of an injunction. Thus, the court would be led to award damages in lieu of an injunction on the grounds that he was

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16 Ibid., p. 34.
17 26 N.Y. 2d 219, 309 N.Y.S. 2d 312, 257 N.E. 2d 870 (Court of Appeals of New York, 1970).
18 Cooter and Ulen, op. cit., at p. 176; Landes and Posner, op. cit., p. 45.
19 Op. cit., p. 45.
20 Ibid., pp. 45-47.

exploiting a 'bilateral monopoly' situation. This outcome is justified by Landes and Posner on the grounds that a solution which results in an operator having to close or move his plant at great expense is an inefficient solution[21]. However, as will be seen below, this will only be the outcome in the most extreme circumstances.

There is evidence to suggest that the economic rationale for the granting of injunctive relief is beginning to permeate judicial reasoning in the English Courts. For example, in *Jaggard* v. *Sawyer* Millett L.J. described the effect of injunctive relief as follows:

> "The grant of an injunction would merely restore the parties to the same position, with each of them enjoying the same bargaining strength, that they had enjoyed before the trespass began"[22]

This is a most unwelcome development from an environmental standpoint for the following reasons. The market analysis of tort gives rise to a situation in which the rights which persons enjoy in property are priced and converted into tradable interests which they can be forced to sell by the court. As Penner argues in his analyses of the decision in *Gillingham Borough Council* v. *Medway (Chatham) Dock Co. Ltd*:

> "[T]he economic analysis of law has been in the forefront of characterizing the law of nuisance as the law of competing land use rights; to the extent that use rights can be isolated from the general right to property courts can determine conflicts between them on any number of basis: public benefit, overall economic efficiency, etc., and the concept of harm is jettisoned. Buckley J.'s decision seems to implicitly accept that the case in Gillingham was a conflict between the rights of the dock company and the shippers to cause a serious noise disturbance and the right of the residents to make use of their property in ways which required a lesser degree of noise, and because of the planning permission given to the dock company the neighbourhood standard was to be regarded as one which favoured the dock company's and the shipper's use."[23]

The major problem with the economic approaches described above is that they assume that efficiency is the sole objective of law, this is clearly not the case. Most economists would accept that the operation of the market should be restricted in certain areas in pursuit of some higher objective. The eminent economist C.A.E. Goodhart is critical

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21 Ibid.
22 [1995] 1 W.L.R. 269, at p. 288E.
23 Penner, J.E., "Nuisance and the Character of the Neighbourhood" (1993) 5 *Journal of Environmental Law* 1,at p. 22.

of the work of Posner in that there is little reference to concepts such as justice and fairness:

> "I find Posner's arguments unconvincing...[in] that they often seem contrary to our personal beliefs in fairness, and in our beliefs in rights and wrongs..."[24]

Similarly, in respect of Posner's assertion that the primary function of law is wealth maximisation[25], Goodhart notes:

> "What I notice about that definition is that there is no reference there to the law being perceived as fair and just by those to whom it is addressed. Wealth maximisation is, indeed, a proper goal both for society and for the legal system within it, but can and should that objective be pursued without due recognition of what that same society regards as just and fair outcomes? I doubt it."[26]

Furthermore, in *The Economic Analysis of Tort*, Landes and Posner only make passing reference in the introduction to those who have criticised the economic analysis of tort on similar grounds[27]; there is no attempt to answer these criticisms.

Goodhart concludes that economists must accept that they cannot extend their efficiency approach into all areas of human activity in that such an approach is not always in the best interests of society. Certain objectives, such as morality, cannot be priced and included in a cost/benefit analysis. As an extreme example Goodhart refers to the issue of corporal punishment. According to an economic analysis, corporal punishment is more cost effective than prison which is extremely expensive, however, as Goodhart states:

> "Flogging and cutting off peripheral bits of people's bodies would, by standard economic criteria, be far more wealth maximising for society than prison sentences. And yet a society that flogged and amputated is not one that I would want to embrace. When it comes to the questions of who should be allowed to do what to our bodies, *we economists will*

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[24] Goodhart, C.A.E., "Economics and the Law: Too Much One-Way Traffic?" (1997) 60 *Modern Law Review* 1, at p. 13.
[25] Posner, R.A. (1983), "Essay on Utilitarianism, Economics and Social Theory" in *The Economics of Justice*, Harvard University Press, at pp. 74-75, "Wealth maximization provides a foundation not only for a theory of rights and of remedies, but for the concepts of law itself..."
[26] Op. cit., at p. 16.
[27] Landes and Posner, op. cit., at p. 9.

> *just have to accept a boundary to our imperial grasp.*"[28] [emphasis added]

Dworkin[29] goes even further in his criticism of the wealth maximization approach and doubts whether the concept can provide any useful guide as to the value of a resource. One obvious flaw in the approach is that the seller may value a resource more highly than the purchaser yet may be forced to part with it out of necessity. To use Dworkin's example, an impoverished person may feel bound to sell a book, which has sentimental value, to a wealthier person who decides to purchase it on a whim on the off chance that he "might someday read it"[30]. In this case it would be absurd to argue that the transaction has resulted in the transfer of the resource to the person who values it most highly. This highlights the fact that the wealth maximization approach has no facility for attaching anything other than a monetary value to resources. Indeed, it leaves the legal/economic analysis open to the criticism that, rather than being objective as it purports to be, it is motivated by political free market ideology which seeks to exclude considerations other than the financial interests of the parties to a transaction. Dworkin argues that it is a mistake to equate individual wealth with the overall well being of society[31]. Any gains achieved through the reallocation of resources, pursuant to private transactions, may be outweighed by the damage caused to other societal interests[32]. It will be recalled that this is why the economist Pigou was in favour of punishing those who failed to take into account the environmental implications of their transaction by means of taxation.

The environment concerns an area in which the operation of the market should be limited on the grounds that wealth maximization cannot be equated with the public interest. For example, the quality of life may be impaired and natural resources may be exhausted; as Steele argues, the economic analysis is flawed in that:

> "No attention is given to the fact that, in some instances, improvements in the quality of environmental media such as air may actually be feasible; or, indeed, that they may be essential in order to sustain human welfare. In some instances, true 'sustainability' might therefore involve a decision not to allocate a 'resource' between different claims, particularly in those instances where 'use' takes the form of 'contamination', or where there is a risk of extinction or exhaustion. A preference based view of costs and benefits, where allocative solutions

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28 Op. cit., at p. 17.
29 Dworkin, R.N., "Is Wealth a Value?", (1980) 9 *Journal of Legal Studies* 191.
30 Ibid., at p. 200.
31 Ibid., at p. 194.
32 Ibid., at p. 201.

> are generated through disputes over ownership or entitlement, does not leave sufficient scope for consideration of such issues. Such an approach, therefore, appears unconvincing where sound environmental policy requires positive improvements in quality, rather than different rates of contamination, or where the relevant issue is one of conservation".[33]

It seems that Posner himself may now have conceded the fact that an approach based upon resource allocation, according to market criteria, may be to the detriment of the environment. He accepts that "the non-pecuniary dimension of wealth is important to emphasise"[34]. However, he also accepts that, as the wealth maximization approach relies upon the assignment of property rights, transactions must be governed by the monetary value attached to those rights[35]. He then echoes Dworkin's argument that there is a difference between what a person may be willing to pay for a resource and the price at which he may be prepared to sell the resource[36]. Furthermore, these prices may in no way reflect the value placed on the resource by the parties to the transaction:

> "An indigent may not be able to pay anything for freedom from pollution, while a wealthy person may demand an astronomical price to surrender his right (if it is his right) to clean air and water."[37]

Rather than propose a solution to this issue, Posner elects to "prescind from these baseline problems and examine wealth maximization in the more common tort situations in which such problems are not acute."[38] In this admission it seems that Posner may also have come to the conclusion that the environment is an area in which, in the words of Goodhart, economists must accept a limit to their imperial grasp.

2.2 Corrective Verses Distributive Justice

Thus, it is necessary to consider whether the use of tort, in an environmental context, should be founded on some idea of justice. However, at this point we encounter a complication in the form of the Aristotelian distinction between corrective and distributive justice.

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[33] Steele, J., "Remedies and Remediation: Foundation Issues in Environmental Liability", (1995) 58(5) *Modern Law Review* 615, pp. 633-634.
[34] Posner, R.A. (1995), "Wealth Maximization and Tort Law: A Philosophical Inquiry", in D.G. Owen (ed.), *Philosophical Foundations of Tort*, Oxford/Clarendon Press, at p. 99.
[35] Ibid.
[36] Ibid., at p. 100.
[37] Ibid.
[38] Ibid.

2.2.1 Corrective Justice

Corrective justice, of which one of the main proponents in recent times has been Weinrib[39], focuses on the relationship between individuals and the moral obligation of one party to compensate another for the loss which he has caused[40]. Hence, according to this view, the sole purpose of the law of tort is to restore the *status quo ante* between the parties. The early development of the common law was clearly firmly rooted in the corrective principle in that the *forms of action* were designed to restore some interest of which the plaintiff had been wrongfully disseised[41].

From an environmental perspective, this narrow view of corrective justice cannot provide a satisfactory theoretical basis. The main reason for this is that it precludes consideration of public interest objectives, of which environmental protection is an example. The distributional objectives of society are deemed to fall within the realm of public law. Thus, as Englard points out, according to Weinrib's corrective approach:

> "The plaintiff sues in order to have the wrong done to him set right. He or she is not a private enforcer of a public interest".[42]

In the previous chapter it was argued that one of the main limitations of tort in the field of environmental protection is that it focuses on the loss suffered by the individual; this may not correlate with the environmental damage caused. Thus, in order to be effective in this context, it is necessary to identify a theoretical basis which allows the law of tort to accommodate public interest considerations. To this end it is necessary to consider the extent to which tort may accommodate distributional considerations.

2.2.2 Distributive Justice

The industrialization of the nineteenth century and the resultant increase in industrial accidents, pollution and nuisance caused many to doubt whether society could afford a system of tort which was based purely on high moral principles[43]. Thus attention shifted from the theoretical to the practical and the extent to which tort could be harnessed in pursuit of social objectives[44]. In more recent times Josef Esser argued

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39 Weinrib, E.J., "Understanding Tort Law" 23 *Val. U. Rec.* 485.

40 Weinrib, in common with most proponents of the corrective approach, bases this moral obligation on Kantian premises. In short, this provides that it is wrong for one person to use the other as a means to the first person's ends. See Weinrib, E.J., "Law as a Kantian Idea of Reason", (1987) 87 *Columbia Law Review* 472.

41 See Chapter 2, above.

42 Englard, I. (1993), *The Philosophy of Tort Law*, Dartmouth Publishing Co. Ltd., at p. 46.

43 See Englard (1993), op. cit., at p. 98.

44 Ibid., at p. 97. Englard notes that as early as 1889 The German jurist Otto von Gierke (1841-1921)

that the Aristotelian distinction between corrective and distributive justice could be used as a philosophical basis for a public interest model of tort.[45] Esser noted that the law of tort involves distributional issues in that it determines the circumstances in which a loss should be borne by the defendant as opposed to the plaintiff. As tort does not exist in a vacuum, it must inevitably absorb societal preferences regarding the distribution of such losses. These preferences are reflected in the criteria applied by the decision maker[46]:

> "Thus, in respect of distributive justice, which is directed at distributing a given object among persons according to a criterion of merit, the substance of that criterion will depend, among other things, on the deciding authority's moral and political philosophy."[47]

For example, the development of strict liability, in certain areas, represents a move towards a distributional approach in that it invites consideration of 'at whose risk' should an activity be conducted as opposed to 'whose fault' was the accident[48].

The rapid growth in insurance markets, since the last century, has also increased the distributive role of tort. Given the fact that tort is concerned with loss allocation, the issue of which party is best placed to bear the loss is an important issue. In this respect the availability of insurance is clearly a material consideration. At one time, the courts were firmly of the opinion that the issue of whether or not the defendant was insured should have no bearing on the outcome of the case[49]. However, the courts have become more ambivalent in their attitude towards the existence of insurance. On a number of occasions, Lord Denning overtly based certain decisions, at least in part, on the fact that the insured party would be better able to bear the loss[50]. Most judges have

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delivered a paper at a lecture in Vienna entitled, "The Social Function of Private Law" (*Die soziale Aufgabe des Privaterechts* (1889, 1948) in which he derided the tendency to isolate pure, abstract, dogmatic and individualistic private law from the social needs of the people.

[45] Esser, J. (1941) *Grundlagen und Entwicklung der Gefährdungshaftung*. München/Berlin.

[46] This would include the court when deciding the outcome of a dispute or the legislature when deciding whether to modify existing common law rules.

[47] Englard (1993), op. cit., at p. 11.

[48] See Jolowicz, J.A., "Liability for Accidents" (1968) 26(1) *Cambridge Law Journal* 50.

[49] "In determining the rights inter se of A and B, the fact that one of them is insured is to be disregarded." per Viscount Simmonds in *Lister* v. *Romford Ice and Cold Storage Ltd* [1957] AC 555, at pp. 576-577.

[50] See *Nettleship* v. *Weston* [1971] 3 All E.R. 581 which concerned whether a learner driver should be expected to display the same degree of competence as a qualified driver. Lord Denning stated that judges would impose a high standard of skill, even on learner drivers, because every driver was required to be insured against third party risks; the reason being "that a person injured by a motor car should not be left to bear the loss on his own, but should be compensated out of the insurance fund. The fund is better able to bear it than he can." Thus, Lord Denning concluded that, "we are, in this breach of the law, moving away from the concept: 'no liability without fault.' We are beginning to apply the test 'On whom should

not gone as far as Lord Denning, nevertheless, it seems that the availability of insurance may add "a little extra tensile strength"[51] to the chain which binds a tortfeasor to his responsibilities.

It has been argued that the existence of insurance is incompatible with the corrective function of tort and represents a move towards an alternative system of compensation such as a social security scheme.[52] Such an approach, based entirely upon distributive principles, severs the bilateral relationship between the parties and "violate[s] the moral foundations of personal responsibility"[53]. For reasons which shall be discussed in due course, a system which relies entirely upon compensation funds is unsatisfactory in that it reduces incentives for risk management. However, the relationship between insurance and tort does not necessarily dispense with all notions of corrective justice in that it retains a degree of individual accountability. For example, a careless person is likely to incur higher premiums and in extreme cases may be denied cover altogether. Furthermore, the insurance policy may only meet part of the costs incurred by the insured; in certain cases there is an agreed upper limit or ceiling.[54]

2.3 The Pluralistic View of Tort

Given that tort cannot function purely as a corrective or distributive mechanism, it is necessary to consider whether there is a theoretical basis which can accommodate both distributive and corrective objectives. There is increasing recognition of the fact that the objectives of tort are multi-faceted and cannot be encapsulated by monistic theories such as economic efficiency or corrective justice. Epstein argues:

> "It is unwise, indeed futile, to attempt to account for the complete structure of a complicated legal system by reference to any single value or principle - be it liberty or efficiency". [55]

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the risk fall?' Morally the learner driver is not at fault: but legally she is liable to be because she is insured and the risk should fall on her." Other decisions in which Lord Denning made similar determinations include *Lamb* v. *Camden LBC* [1981] Q.B. 625; *Sparton Steel* v. *Martin* [1973] Q.B. 27; and *R.H. Willis and Son* v. *British Car Auctions Ltd* [1978] 2 All E.R. 392.

[51] *Executor Trustee and Agency Co. Ltd* v. *Hearse* [1961] S.A.S.R. 51, at p. 54, per Chamberlain J.

[52] See Heuston, R.F.V., and Buckley, R.A., *Salmond and Heuston on the Law of Torts*, (20th edn.), Sweet & Maxwell, at p. 28: "Once it is conceded that insurance renders compensation the sole purpose of damages, then the tort action itself becomes more vulnerable to attack, for their are many ways - some perhaps fairer and administratively cheaper than tort - of compensating a victim for a loss he has suffered".

[53] Englard (1993), op. cit., at p. 13.

[54] See Cane, P. (1996), *Tort Law and Economic Interests*, Clarendon Press, at pp. 479-481.

[55] Epstein, R.A., "Causation and Corrective Justice: A Reply", (1979) 8 *Journal of Legal Studies* 477,

Nevertheless, certain proponents of the corrective theory remain of the opinion that the distributional objectives of society should be met by entirely separate mechanisms[56]. However, to remain firmly entrenched in the corrective view of tort is to ignore the existence of strict liability and insurance. As Englard argues, these factors introduce issues of efficient loss allocation:

> "Weinrib's insistence on complete theoretical purity, on the rigorous pursuit of one single value is...unsatisfactory. Areas of strict liability have become deeply entrenched in tort law, and the reality of insurance cannot be isolated from tort adjudication. The idea of efficient loss allocation should not be totally excluded from tort law, even if it does not accord with the Kantian premises of autonomy and moral responsibility."[57]

In theoretical terms, this 'pluralistic' approach may appear unsatisfactory in that it lacks the purity of the monistic approaches. In order to overcome this objection, Englard has suggested grounding the pluralistic view of tort law in the theory of 'complementarity'[58]. This derives from the physicist Neils Bohr's philosophical explanation for the anomalies produced by quantum mechanics. In short, the theory provides that conflicting principles may appear irreconcilable when viewed in isolation, yet, when viewed collectively, they may constitute a unified whole[59]:

> "Two or more descriptions of a thing are complementary if each alone is incapable of providing a complete description or explanation of the thing in question and both or all together provide a complete description".[60]

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at p. 503

[56] According to Weinrib, damage costs must be met either by the injurer according to tort rules founded upon corrective principles, or, from a compensation fund operated according to distributive principles. Thus, in his view there is no middle ground where both principles may be combined. See Weinrib, E.J. "Aristotle's Forms of Justice", (1989) 2 *Ratio Juris*, 211, at p. 214.

[57] Englard, I. (1995), "The Idea of Complementarity as a Philosophical Basis for Pluralism in Tort Law", in, D.G. Owen (ed.), *Philosophical Foundations of Tort*, Oxford/Clarendon Press, at p. 185.

[58] Ibid. See also Wright, R.G., "Should the Law Reflect the World?: Lessons for Legal Theory from Quantum Mechanics", (1991) 18 *Fla. St. U.L. Rev.*, 855.

[59] See Murdoch, D. (1987) *Neils Bohr's Philosophy of Physics*. Cambridge. In quantum mechanics it is possible to explain matter and radiation either as particles or waves (wave-particle duality). Despite the fact that the two concepts are incompatible, experimental findings may point to the existence of one or the other. In isolation the two concepts provide an explanation for some findings: together they provide an explanation for all findings.

[60] Englard (1995), op. cit., at p. 188.

Thus, in certain cases, "opposing principles constitute a harmonious totality"[61]. As Englard notes, this is an idea that occurs throughout philosophy and religion.[62] Indeed, Bohr contended that the theory could be extended into many areas other than physics including culture, art and music[63]. Englard argues that complementarity is also consistent with a pluralistic view of tort.

Such an approach may confer some degree of theoretical elegance on the pluralistic approach. However, the issue of whether it is possible to embody competing objectives in a single concrete legal rule or court decision in practice is another matter. Englard argues that such an approach is possible and refers to the fact that the solutions adopted by the court, in many cases, represent compromise solutions which embody competing objectives. He uses the example of criminal penalties, thus, in a case where a theory of retribution requires a term of imprisonment of 2 years whilst a theory of deterrence demands a term of 10 years, the court may decide to impose a term of 5 years[64].

Englard's analysis appears to provide a viable explanation for the use of tort in an environmental context where the difficulties of reconciling distributive and corrective issues are acute. It is possible to detect the application of a pluralistic approach in some of the substantive common law rules which have been encountered in the previous chapter. For example, the development of the 'character of the neighbourhood' test[65] in nuisance, as a threshold of damage, can be interpreted as an example of a pluralistic approach. The test clearly introduced distributional considerations in that it allowed activities to continue which would previously have been deemed unacceptable. However, it also retained the harm principle in that damage which exceeded the threshold remained actionable; this preserved an element of corrective justice.

In *Rylands* v. *Fletcher* Blackburn J. explicitly addressed the issue of where the loss should fall where one land owner made an un-natural use of his property[66]. A conscience decision was made to hold the land owner liable, in such circumstances, by the establishment of a rule of strict liability. However, strict liability retains elements

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61 Ibid., at p. 190.
62 Ibid., at p. 190.
63 See, for example, Bohr, N. "Natural Philosophy and Human Culture", (1939) 143 *Nature* 268; Bohr, N. (1958) "Unity of Knowledge". In *Atomic Physics and Human Knowledge* (1961).
64 Englard (1995), op. cit., at p. 194.
65 *St. Helen's Smelting* v. *Tipping* (1865) 11 H.L.C. 462.
66 (1866) L.R. 1 Ex. 265, at pp. 279-280.

of corrective justice in that defences are normally available in respect of events which are entirely beyond the control of the land owner; these include acts of a stranger[67] and Acts of God.[68]

The use of injunctive relief also provides a clear example of an area in which the courts may adopt a pluralistic approach. On the face of it, the decision to grant injunctive relief may appear to represent a purely corrective approach which excludes consideration of distributional issues. However, this is based on the view that injunctions inevitably lead to the closure of the business or the imposition of unsustainable costs. On the contrary, it is important to note that an injunction need not operate as an inflexible instrument which expunges one land use in favour of another. Injunctions can be effective in forcing polluters to investigate cleaner technologies which enable the activity to continue at less cost to the environment. McLaren (1972) argues that producers are often reluctant to take this step of their own accord:

> "There is little doubt that industrialists will often ignore technological reality and resist making adjustment in their processes to accommodate pollution control, unless they are forced to think and to act."[69]

As evidence for this assertion he cites an extract from an interview with a manufacturer of pollution abatement equipment:

> "...we have found it very hard to place our equipment out in the field, mostly because industries refuse to spend any money for this cause. The attitude towards cleaning up the waste water is very negative, and they feel that they are paying for something in which there is no profit available to them. Therefore, unless they are forced into doing something about it, my opinion is that they are going to continue to stall, either by pulling political strings or denying that there is any purification equipment available."[70]

McLaren concludes that injunctions are the most effective means of forcing operators to adopt cleaner technologies. Once damages have been awarded the pollution may continue unabated, however, an injunction enables the court to influence the manner in which the plant is operated:

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[67] See, for example, *Northwestern Utilities Ltd.* v. *London Guarantee and Accident Co. Ltd* [1936] A.C. 108; *Rickards* v. *Lothian* [1913] A.C. 263.
[68] See, for example, *Nichols* v. *Marsland* (1876) 2 Ex. D. 1.
[69] McLaren, J.P.S., "Nuisance Actions and the Environmental Battle", (1972) 10(3) *Osgoode Hall Law Journal* 505, p. 557.
[70] Esposito, "Air & Water Pollution: What to Do While Waiting for Washington", (1970) 5 *Harv. Civ. Rights - Civ. Lib. L. Rev.* 32.

> "The choice of an injunction shows clearly that the court is serious about dealing with the root of the problem which has given rise to the plaintiff's claim. Moreover, when a court grants injunctive relief it undertakes a supervisory role in seeing that the terms of the injunction are satisfied, and thus can guarantee that the polluter takes the appropriate action."[71]

As technology advances it is becoming increasingly difficult for operators to argue that the technology does not exist to abate the pollution. Indeed, as long ago as the turn of the Century, Dewees empirical study of tort litigation arising out of sulphur dioxide emissions in the United States and Canada[72] demonstrates that injunctions were extremely effective in encouraging operators to develop new abatement technology. In States where courts granted injunctive relief in preference to damages copper and lead smelter operators quickly adopted the latest available abatement technology known as the electro-static precipitator (ESP)[73]. Dewees concludes that:

> "[I]n general the abatement undertaken at these smelters represented either pioneering work or at least best practice at the time it was installed. This litigation, with its injunctive relief, seems to have been reasonably effective in pushing abatement near to the state of the art at the time."[74]

Far from imposing a burden on operators, in some cases it was found that new abatement technology actually led to cost savings; for example, ESP technology enabled metal particles to be recovered which would otherwise have been expelled with the flue gases. In another example quoted by Dewees, smelter owners in Tennessee who installed acid plants to remove sulphur dioxide from emissions found that the sulphuric acid produced as a by-product of the process was more profitable than the copper produced. Furthermore, the principal market for sulphuric acid was in the production of fertilizer, thus, the substance which had originally killed crops was converted into a form which enabled them to thrive. This was just a few years after a court had refused to enjoin smelter operators in Tennessee from producing sulphur dioxide emissions on the grounds that to do so would lead to the closure of the

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[71] McClaren (1972), op. cit., p. 557.
[72] See Dewees, D., "Sulphur Dioxide Emissions from Smelters: The Historical Inefficiency of Tort Law", University of Toronto, January 2 1996; Dewees D., and Halewood, M., "The Efficiency of the Law: Sulphur Dioxide Emissions in Sudbury", (1992) 42 *University of Toronto Law Journal* 1.
[73] The flue gases were passed through a chamber which was fitted with electrically charged wires and oppositely charged plates. The wires charged the particles passing into the chamber which were then attracted to the plates through electromagnetic attraction.
[74] Dewees (1996), op. cit.

smelters[75]. The case demonstrates the difficulties in conducting an accurate cost - benefit analysis between competing land uses.

Furthermore, it is possible to attach conditions to injunctions which allow the activity to continue whilst reducing the harmful effects on the plaintiff. Such conditions may be tailored to take account of technical feasibility[76].

To grant injunctive relief against a large and influential industrial concern demands courage on the part of the court. However, the larger and more successful the enterprise the more likely it is to have the resources to comply with the terms of an injunction. Where, an enterprise cannot comply with the terms of an injunction, even in circumstances where it has been tempered to take account of technical feasibility and cost, McLaren (1972) draws the harsh conclusion that such enterprises are not worth saving:

> "If in the final analysis, the practical result is the shutting down of the offending operation, then, in the writer's opinion, that has to be faced by the polluter and the community with what fortitude they can muster. It can well be argued that in the contemporary scale of social values endeavours to improve the state of the environment are more important than the continued existence of marginal or struggling industrial concerns. Apart from anything else it is not beyond the ingenuity of society and particularly governments to compensate for the adverse community consequences of the demise of a local employer. New non-polluting industries may be brought in or encouraged to set up. Workers may be absorbed in other plants are relocated. The consequences are remediable. However, pollution, by definition, has no other solution than to restrict or remove its sources. If it continues, then the sure result is further and perhaps irremediable corruption of the environment."[77]

The pluralistic analysis provides a sound and practicable theoretical basis for the use of tort in an environmental context. It is possible for liability to remain firmly anchored in the harm principle whilst preserving the ability of the law to take account

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[75] *Madison et al* v. *Ducktown Sulphur, Copper & Iron Co. Ltd.* (1904) 83 S.W. 658 at 660: "It is found...that if the injunctive relief sought be granted, the defendants will be compelled to stop operations and their property will become practically worthless, the immense business conducted by them will cease, and they will be compelled to withdraw from the State. It is a necessary deduction from the foregoing that a great and increasing industry in the state will be destroyed, and all of the valuable copper properties of the State will become worthless...If these industries be suppressed, these thousands of people will have to wander forth to other localities to find shelter and work."

[76] For an example of such an approach see *Jordan* v. *Norfolk County Council and another* [1994] 1 W.L.R. 1353, ch. 3, above.

[77] Op. cit., p. 559.

of distributional issues. The law of tort has always absorbed social and political preferences regarding where loss should fall. Economic efficiency is only one criterion which can be applied and, as Posner appears to concede, may provide little guidance in determining the desirability of protecting a natural resource. The issue of where losses should fall must be determined in accordance with a broader range of criteria including "the deciding authority's moral and political philosophy".

A useful example of the manner in which the law of tort may be developed, so as to reflect changing social and political preferences regarding the distribution of losses, is provided by industrial accident law. Dias and Markesinis argue that liability based upon fault "suited Victorian morality and cushioned growing industries at a time when insurance was in its infancy"[78]. However, it eventually became "politically unacceptable to let the loss lie on injured workmen"[79]. Furthermore, the development of insurance and the realization that costs could be passed to consumers through the pricing of goods "led to the conviction that employers were best equipped to carry such losses"[80]. Thus elements of loss distribution were introduced into industrial accident law.

The political and social climate is now such that the focus of tort, in an environmental context, should be directed to the issue of 'who should bear the loss'. If one applies general principles of environmental law it seems clear that the polluter should pay; hence the inclusion of the 'polluter pays' principle in the Treaty of Rome[81]. However, the fact that tort is conceptually capable of accommodating such distributional objectives does not mean that it would necessarily augment regulatory responses already in place. This gives rise to the issue of whether tort has the capacity to fulfil a useful role as a component in a system of environmental regulation.

3 THE ROLE OF TORT IN AN ENVIRONMENTAL CONTEXT

3.1 Private Enforcement of Environmental Standards

The bulk of environmental law consists of licensing regimes which permit emissions up to a certain limit[82]; these may be tightened in accordance with improvements in

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78 Dias, R.W.M. and Markesinis, B.S. (1984), *Tort Law*, Oxford/Clarendon Press, at p. 14.
79 Ibid.
80 Ibid.
81 See Chapter 5, below.
82 Such as the 'Integrated Pollution Control' (IPC) system introduced under Part 1 of the Environmental Protection Act (EPA) 1990.

abatement technology.[83] The regulator[84] polices these limits and may have recourse to criminal penalties[85] where they are breached. During the 1970s and 80s the regulators adopted a conciliatory approach and regarded prosecution as a last resort.[86] However, in recent years the EPA has adopted a far more assertive enforcement strategy. To this end it now considers that its role is to punish the flouting of environmental regulations in addition to co-operating with industry in attaining targets.[87]

These developments are welcome and will no doubt increase the deterrent effect of criminal sanctions which, in the past, have not been viewed as 'proper' offences.[88] However, no system of environmental regulation can rely entirely upon one mechanism; each method has strengths and weaknesses according to the circumstances. The use of licences, backed by criminal sanctions, leaves gaps in enforcement which tort may have a useful role in reducing.

One problem is that, due to limited resources, enforcement agencies must pick and choose which matters to investigate.[89] As a result, many polluting incidents are not pursued by the regulator with the result that the polluter may not be called to account.[90] Where, however, the pollution causes private loss, the person concerned

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[83] In determining which technology should be employed the 'Best Available Technology Not Entailing Excessive Cost' (BATNEEC) test is applied; see s. 7(2)(a) Environmental Protection Act 1990. The concept is a more transparent version of the BPM approach first applied by the Alkali Acts and brings it into line with the test adopted by EC Framework Directive 84/360/EEC on combating air pollution from industrial plants, OJEC, L188, 16 July 1984, Art 4.1.

[84] Complex or particularly hazardous activities fall within the jurisdiction of the Environment Agency, whereas, local authorities regulate atmospheric emissions of a less complex or hazardous nature; see s. 6 EPA 1990.

[85] For example, under IPC, if an operator breaches the terms of a discharge consent, the EPA will serve an enforcement notice requiring the operator to remedy the situation. If this is not complied with he may be prosecuted under section 23(1)(c) EPA 1990.

[86] See Hawkins, K. (1984), *Environment and Enforcement: Regulation and a Social Definition of Pollution*; Baldwin and McCrudden (1987), "Regulatory Agencies: An Introduction", in *Regulation and Public Law*, Weidendeld and Nicolson.

[87] See Lomas, O., and Fairley, R., "The Long Arms of the Environment Agency", (1997) 80 *Legal Business*, Supp. 8-9; Tromans, S, and Doring, M., "Convictions for Environmental Offences", (1996) 5(8) *Environmental Law Monthly* 10.

[88] In *Sherras* v. *De Rutzen* [1895] 1 QB 918 it was stated that administrative offences, "are not criminal in any real sense but are acts which in the public interest are prohibited under a penalty", per Wright J. at p. 922.

[89] Certain research findings demonstrate that there is a tendency for enforcement agencies to either concentrate on petty offences, which are easy to prove, or high profile cases which may result in exemplary deterrence. See McMurry and Ramsy (1986), 19 *Loyola of Los Angeles Law Review* 1133, at p. 1161; Moodie (1981) 7 *Environmental Policy and Law* 17.

[90] According to figures submitted by the Environmental Protection Agency to McKenna Report & Co., it received 25,415 substantiated reports of pollution to water courses in 1994. However, there were only 237 prosecutions resulting in 222 convictions. Cautions were only issued in 193 cases. See McKenna &Co. (1996), *Study of Civil Liability Systems for Remedying Environmental Damage* (independant study for EC Commission DGXI), Brussels: EC Commission DGXI, at p. 225.

may chose to pursue the matter under civil law. There are a number of advantages associated with such an approach. The remedies available under civil law are more flexible than criminal sanctions and may require the polluter to internalize a greater proportion of the pollution costs. Whereas fines are arbitrary[91] and go straight to the Treasury, damages more accurately reflect the value of the damage caused and may be applied to the costs of remediation.[92] Furthermore, injunctions enable the court to take a proactive stance in requiring the polluter to actually take abatement measures or to rectify damage which has already occurred.[93]

A further potential benefit is that, whereas the standard of proof in criminal law is beyond reasonable doubt, in civil law the court must be satisfied on the balance of probabilities. As Burnett-Hall points out:

> "To avoid convicting a defendant on a criminal charge unfairly, he is, quite rightly, afforded a whole range of evidential and other procedural safeguards, notably the appreciably heavier criminal burden of proof. This protection inevitably means either that there are more acquittals than would otherwise be the case or - no doubt much more often - that proceedings are never brought in the first place."[94]

This burden is reduced where the offence is of strict liability, however, this only relates to the state of mind (*mens rea*) of the defendant; it is still necessary to show, beyond reasonable doubt, that the damage was attributable to the defendant (*actus reus*). It can be difficult to establish causation according to the civil test; this task is even more onerous under the criminal test.[95]

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[91] For example, in the UK, under section 85(6) of the Water Resources Act 1991, the maximum fine which a magistrates court can award is £20,000. The Crown Court is not subject to this limitation, however, the criteria it applies concern the ability of the accused to pay and the seriousness of the offence in terms of the culpability of the defendant; this does not necessarily correspond with the actual cost of the damage caused. In practice it is rare for fines to exceed £30,000 in the Crown Court. (Information supplied by the Environmental Protection Agency to McKenna & Co. and published in its *Study of Civil Liability Systems for Remedying Environmental Damage*, above). Furthermore, according to a comparative study prepared by Dr Gunther Heine of the Max Plank Institute for Foreign and International Criminal Law, Fieburg, Germany, in countries where heavy fines are available, courts are reluctant to impose penalties which in any way approach the maximum limit. See Heine, G. (1991), "Environment Protection and Criminal Law", in O. Lomas (ed.), *Frontiers of Environmental Law*, Chancery Law Publishing.

[92] For example, following the Shell Mersey Estuary Oil spill of 1989, Shell was fined £1m which, up to that point, was the largest penalty ever imposed for environmental impairment. However, clean up costs amounted to £1.4m and property damage amounted to £2.1m. See Holmes, R., and Broughton, M., "Insurance Cover for Damage to the Environment", (1995) 9513 *Estates Gazette* 123.

[93] See McLaren (1972), op. cit., above.

[94] Burnett-Hall, R., "Enforcement through civil proceedings", (1997) 2 *Amicus Curiae* 24.

[95] This is clearly illustrated by the Australian case of *EPA* v. *Barlow* (Unreported, Land & Environment Court of New South Wales, 23 April 1993). In this case there seemed to be overwhelming prima facie evidence that fish had been killed as a result of a crop spray, known to be harmful to fish, used by the

3.2 Private Law and the Public Interest in the Environment

Above, it was noted that, in a system of tortious liability which is characterized by corrective principles, a plaintiff cannot be viewed as a private enforcer of a public interest. However, it was then explained that there is a sound theoretical basis for admitting public interest issues into substantive tort rules and the remedies available to the courts. An important issue concerns whether it would be possible to take this approach one step further and allow private bodies to undertake actions, related to environmental damage, on the publics behalf.

Such an approach would greatly increase the number of participants in the enforcement of environmental standards and reduce the need to rely upon enforcement agencies to take the initiative. A polluting incident which affects a limited number of individuals may not prompt a regulatory authority to take action. Nevertheless, from the perspective of the individuals concerned, the incident may appear to be of great importance and cause them to initiate their own proceedings. Thus, civil liability may penetrate a far greater range of activities than regulatory responses where regulatory authorities are constrained in the matters which they choose to pursue by issues such as staffing shortages, policy considerations and limited resources.

To a limited extent, those statutes which impose civil liability (in addition to criminal penalties), by way of the tort of breach of statutory duty, facilitate a degree of private enforcement. As Rogers argues:

> "Provision for public participation and especially by those members who suffer particular loss or damage as a result of legislative non-compliance, would ensure that the public interest in the preservation of the environment was not compromised by governmental inactivity through negligence, political pressure or fiscal restraints. In the absence of legislative reform in this area, the common law tort of

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defendant on his cotton plants. The dead fish were found the day after the spray had been used and tests on the carcasses revealed traces of the chemical. However, the judge threw out the case on the grounds that there was a possibility, albeit improbable, that the contamination may have washed down from another plantation upstream. Hemmings, considers that there is a greater likelihood that the evidence would have been sufficient to establish causation under the civil test. (See Hemmings, N., "The New South Wales Experiment: The Relative Merits of Seeking to Protect the Environment though the Criminal Law by [sic] Alternative Means", (1993) *Commonwealth Law Bulletin* 1987.This would certainly be the case according to the position adopted by the House of Lords in *McGhee* v. *N.C.B.* [1973] 1 W.L.R. 1. Recall that, where it cannot be established whether a specific breach of duty led to the harm, there may be a presumption of causation provided the identity of the causal agent is not in doubt. In *EPA* v. *Barlow* there was no doubt that the chemical was only used by the cotton industry in that region; therefore, it seems likely that a civil court would have been in a position to make a presumption of causation in these circumstances.

> breach of statutory duty would secure public participation in the enforcement process." [96]

A useful case study of how tort actions may result in the private enforcement of environmental standards is provided by the Anglers Co-operative Association[97]. The ACA was founded in 1948 in order to fight pollution and now comprises 17,500 angling clubs. The member clubs pay a subscription to the Association and in return the ACA indemnifies them for any legal action they pursue following a polluting incident. It will be recalled that, before one can undertake an action in nuisance, it is necessary to establish a proprietary interest in land. In view of this the ACA advises its members to obtain a lease from the riparian owner. The scheme has proved to be extremely successful and the vast majority of actions, supported by the ACA, have been won by the angling clubs. In many cases injunctive relief has been granted requiring operators to clean up pollution.[98]

The ACA example is unusual in that the participants in the scheme have found a means of establishing a proprietary interest in the resource they are seeking to protect. However, the solution to the standing problem adopted by the ACA would not be open to most environmental interest groups; save for those which actually own, for example, a nature reserve or a wildlife sanctuary.[99] Thus in order to extend the role of tort as a means of private enforcement it would be necessary to afford standing to such groups. At this point it would be useful to consider whether there is a conceptual basis which would allow this step to be taken. This would entail establishing a community interest in the environment which amounts to some form of proprietary interest.

During the latter part of the 20th Century it has been possible to detect the emergence of a concept of 'environmental rights'. In 1972 the Stockholm UN Conference on the Human Environment resolved in Principle 1 that:

> "Man has a fundamental right to freedom, equality and adequate conditions of life, in an environment of quality that permits a life of dignity and well being, and he bears a solemn responsibility to protect and improve the environment for present and future generations."

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[96] Rogers, N., "Civil Liability for Environmental Damage: The Role of Breach of Statutory Duty" [1994] *Environmental Liability* 117, at p. 118.
[97] See Bate, R., "Water Pollution Prevention: A Nuisance Approach", (1994) 14(3) *Economic Affairs* 13.
[98] Ibid.
[99] See, for example, *League Against Cruel Sports* v. *Scott* [1986] Q.B. 240.

Some twenty years later, the declaration following the Rio UN Conference on Environment and Development proclaimed in Principle 1 that:

> "Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature."

Furthermore, in recent years the European Court of Human Rights has begun to impute certain 'environmental rights' into the European Convention on Human rights although the Convention does not make any express reference to such a concept. In *Lopez Ostra* v. *Spain*[100] the applicant lived in close proximity to a new liquid waste treatment plant which had been built to deal with the by-products produced by the many leather tanneries in the area. Due to a malfunction on start up, gas fumes, pestilential smells and contamination were released which caused nuisance and health problems to those living in the area and necessitated re-housing. It transpired that the operators of the plant, SACURSA, had not obtained a licence and that, furthermore, the regulatory authorities had not taken any steps to enforce the licensing requirements. Having met with little success in pursuing SACURSA in various actions before the domestic courts, Mrs Lopez Ostra resorted to a human rights argument against the State on the grounds that, as a result of its omissions[101], the State had breached, inter alia, Article 8 of the Convention which provides as follows:

> "1. Everyone has the right to respect for his private and family life, his home and his correspondence.
> 2. There shall be no interference by a public authority with the exercise of this right except such as in accordance with the law and is necessary in a democratic society in the interests of national security, public safety or the economic well being of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights and freedoms of others."

The Court upheld this argument on the grounds that:

> "Naturally, severe environmental pollution may affect individuals' well-being and prevent them from enjoying their homes in such a way

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100 (1995) 20 E.H.R.R. (1) 277.

101 The European Court of Human Rights has established that, in addition to placing obligations on states to refrain from breaching human rights, the Convention places a positive obligation on States to protect human rights from interference by others. See *Marckx* v. *Belgium* (A/31): 2 E.H.R.R. 330, para 31; *Young, James and Webster* v. *United Kingdom*, Applications Nos. 7601/76 and 7806/77, Series B, No. 39, para. 168; *x and y* v. *Netherlands* (A/91): (1986) 8 E.H.R.R. 235, para. 23.

> as to affect their private and family life adversely, without, however, seriously endangering their health."[102]

The most interesting aspect of this decision is that a dispute which had the characteristics of a tort problem was converted into a rights issue and pursued against the State. However, it is not always possible to convert such matters into rights issues affecting the state; as the case law of the European Court of Human Rights demonstrates, it is necessary to show an omission on the part of the State to safeguard the rights in question. This gives rise to an interesting issue, namely, whether it would be possible to use the law of tort as a means of protecting such interests. Such an approach is possible in theory, although, it may entail a reassessment of the way in which the concept of property is viewed in this context. It would necessitate expanding the notion of property so as to afford persons a form of proprietary interest in the environment.

A useful starting point for this debate is provided by an article written by Reich in 1964[103]. Reich was deeply concerned by the fact that the well being and livelihoods of citizens in the United States was increasingly dependant upon the 'largess' of government. Largess encompasses state benefits, government contracts, provision of employment in the public sector, the provision of licenses to pursue a trade or profession and so forth[104]. However, he noted that such benefits were perceived as privileges which could be revoked without good reason. Thus, many individuals were needlessly deprived of their livelihoods and status. In certain cases this resulted in gross abuses of civil liberties[105].

Reich argued that property is an essential component of liberty:

> "[T]he Bill of Rights comes into play only at extraordinary moments of conflict or crisis, property affords day-to-day protection in the ordinary affairs of life."[106]

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[102] At para. 51.
[103] Reich, C.A., "The New Property", (1964) 73(5) *Yale Law Journal* 733.
[104] Ibid., at pp. 734-739.
[105] Reich was particularly disturbed by the case of *Fleming* v. *Nestor* 363 U.S. 603 (1960). Nestor had arrived in the U.S. in 1913 and, upon retirement in 1955, became eligible for old age benefits (his employers had made regular contributions). However, following the revelation that he had been a member of the Communist party between 1930 and 1939 he was deported and the payment of benefits to his wife was terminated. The Supreme Court decided that the benefits constituted a gratuity and that the state was under no contractual obligation to maintain them. See Reich, op. cit., at pp. 768-769.
[106] Op. cit., at pp. 771.

However, during the industrial revolution, the idea of liberty based upon property became increasingly vested in the tangible resource itself; societal constraints on the use of resources were ousted. Thus a person could do as he wished with his land, even if this was at the expense of his neighbours[107]. Reich argued that, as a result of such abuses, powers were increasingly transferred from the private to the public sector during the early part of the twentieth century[108]. However, Government itself became guilty of the same abuses:

> "Government as an employer, or as dispenser of wealth, has used the theory that it was handing out gratuities to claim a managerial power as great as that which the capitalists claimed. Moreover, the corporations allied themselves with, or actually took over, part of government's system of power. Today, it is the combined power of government and the corporations that presses against the individual."[109]

Reich concluded that the only way to safeguard essential benefits conferred by government largess would be to establish proprietary rights in those interests. He also argued that there was no conceptual difficulty with such an approach. The notion of property is an invention of society and may be adapted to suit society's needs[110]. Thus, governments may confer proprietary interests in benefits[111] and stipulate the terms upon which those benefits are held:

> "Once property is seen not as a natural right but as a construction designed to serve certain functions, then its origin ceases to be decisive in determining how much regulation should be imposed. The conditions that can be attached to receipt, ownership, and use depend not on where property came from, but on what job it should be expected to perform."[112]

Thus, according to this view, property vests in rights and duties associated with use of a resource rather than the resource itself. Macpherson argues that there was originally a much broader conception of property which, apart from the right to exclusive possession, included "an individual right not to be excluded from the use or enjoyment of things the society had declared to be for common use - common lands,

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[107] Ibid., at p. 772.
[108] Ibid., at p. 773.
[109] Ibid.
[110] Ibid., at pp. 771-772.
[111] Reich made the point that rights in real property ultimately vest in the state and were originally conferred by the Crown (before US independence). In the UK it is the case that property ultimately reverts to the Crown as *bona vacantia* in the absence of an individual who can show title. See Reich, op. cit., at p. 778.
[112] Ibid., at p. 779.

parks, roads, waters"[113]. Hence, the right to exclusive possession of an area of land would have to be balanced against, for example, the grazing rights of others.

In common with Reich, Macpherson argues that it is only since the growth of free market economics that the conception of property has narrowed to the resource itself and the right to exclude others:

> "[W]ith the predominance of the market, all individual's effective rights, liberties, ability to develop their own persons and exercise their own capacities came to depend so much on the amount of their material property that it was not unrealistic to equate their individual property with their material property."[114]

As the right not to be excluded was not marketable it "virtually dropped out of sight"[115].

In earlier époques, individuals enjoyed a form of proprietary interest in certain socially valued resources with the result that a private individual could not appropriate such resources and exclude all others from benefiting from them. Macpherson points out that in pre-market societies there were established "legal rights not only to life but to a certain quality of life. Thus:

> "the rights of different orders or ranks, guild masters, journeymen, apprentices, servants and labourers; serfs, freemen and noblemen; members of the first and second and third estates. All of these were rights, enforced by law or custom, to a certain standard of life, not just to material means of life, but also of liberties, privileges, honour, and status. And these rights could be seen as properties."[116]

Hence, interests which are currently being developed as human rights issues such as the right to a certain quality of life were viewed as property rights. Furthermore, Macpherson argues that this is a more democratic notion of property than one which merely focuses on the right to exclude others from the use of a resource.

These arguments may seem highly theoretical, however, Gray[117] points to certain areas in which, at least in the United States, there are signs of a return to such a

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113 Macpherson, C.B., "Human Rights as Property Rights", (1977) 24 *Dissent* 72, at p. 73.
114 Ibid., at pp. 74-75.
115 Ibid., at p. 75.
116 Ibid., at p. 77.
117 Op. cit.

conception of property. For example, he refers to the development of a concept of quasi public places[118] such as shopping centres and parks in which, despite being privately owned, certain test cases have established that the public has a right not to be unreasonably excluded from them[119]. Thus, certain obligations are placed on land holders which may be enforced by the beneficiaries of those obligations with the result that the public gain a form of "equitable ownership of the resource". This is exemplified by developments which have taken place in environmental law where, Gray argues that:

> "[T]he vital ecological resources of the earth are increasingly seen as governed by a trust for the preservation of environmental quality under conditions of reasonable shared access for all citizens. Meaningful reference can thus begin to be made to the collective beneficial rights of the generalised public in respect of strategically important environmental assets."[120]

It is possible to detect the emergence of this concept of 'stewardship' in the famous dissenting judgment of Douglas J. in *Sierra Club* v. *Morton*[121]. The case concerned whether the Sierra Club, which undertakes conservation work and promotes outdoor pursuits, had standing to seek injunctive relief in order to restrain environmentally harmful commercial development of the Mineral King Valley in the Sierra Nevada of Northern California. Standing was denied by the majority, however, in his dissenting judgment, Douglas J. appeared to suggest that there could be such a thing as a public trust doctrine in ecological resources. He argued that those persons who have a "meaningful" or "intimate" relationship with the resource such as those who "hike it, fish it, hunt it, camp in it, frequent it, or visit it merely to sit in solitude and wonderment must be in a position to speak for its values."[122] Unless there was some means of affording indirect standing to ecological resources through the use of representative actions; "priceless bits of Americana (such as a valley, or alpine meadow, a river or a lake) [would be] forever lost or...so transformed as to be reduced to the eventual rubble of our urban environment."[123] At one point Douglas J. appeared to take the radical approach advocated by Stone[124] who argued that the elements which comprise the environment itself such as flora and fauna should be

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118 Op. cit., at pp. 172-181.
119 See, for example, *Robins* v. *Prune Yard Shopping Center* 592 P2d 341 (1979), afd sub nom *Prune Yard Shopping Center* v. *Robins*, 447 US 74, 64 L Ed 2d 741 (US Supreme Court 1980) .
120 Op. cit., at p. 189.
121 405 US 727, 31 L. Ed 2d 636 (1972).
122 Ibid., at 648f.
123 Ibid.
124 Stone, C, "Should Trees have Standing? - Towards Legal Rights for Natural Objects", 45 *S Cal L Rev* 450 (1972).

regarded as possessing rights themselves which interested parties should be capable of enforcing in the capacity of a form of guardian *ad litem*:

> "inarticulate members of the ecological group cannot speak...those people who have to frequent the place as to know its values and wonders will be able to speak for the entire ecological community."[125]

Such an approach opens a philosophical debate, however, whether a representative action is viewed as upholding the public interest in an ecological resource or the resource itself the practical result is the same. However, Douglas J. also appeared to recognize that the beneficial interests which he listed may be extremely diffuse and difficult to quantify. For example, how many times must a hiker visit an area before he is regarded as having a beneficial interest in the resource? It is for this reason that Douglas J. was in favour of affording standing to groups with a special interest in the environment such as the Sierra Club.

Thus the recognition in public law that there is a right to an unpolluted environment on the grounds that it is an important aspect of the quality of life is mirrored by developments in private law in the US which recognize that the public has an equitable proprietary interest in the maintenance of a certain quality of life. The use of private mechanisms as a means of protecting rights which are normally considered as belonging to the realms of public law may appear radical. However, as Macpherson has pointed out, there is historical precedent for such an approach. Furthermore, in a society which is dominated by and governed in accordance with the notion of property the only effective way to protect those rights is to assimilate them with the institutions of property. The argument in favour of harnessing the property institutions as a means of protecting fundamental rights is most clearly set out by Gray explains (drawing on the work of Macpherson):

> "It may, of course, be asked why the interests represented in the new equitable property are not merely urged as human or civil rights. The answer must be the one given by Professor Macpherson: 'We have made property so central to our society that any thing and any rights that are not property are very apt to take second place.'[126] In adopting the terminology of equitable property we lock into the insidiously powerful leverage of the primal claim, 'it's mine', and we harness this claim for more constructive social purposes. When important assets of the human community are threatened, we are able to say with collective force, 'You can't do that: those assets are ours.' When you pollute our

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[125] Per Dougals J., at p. 653.
[126] Op. cit., at p. 77.

> air or our rivers or exclude us unreasonably from wild and open spaces, we can mobilise the enormous symbolic and emotional impact of the property attribution by asserting that you are taking away some of our property."[127]

Thus, Gray concludes that there is no "unbridgeable gulf"[128] between public and private law in that it is conceptually possible to harness private law as a means of securing public interest objectives such as environmental protection. As he goes on to state:

> "The constant imposition of social and moral limits on the scope of 'property' necessarily entails that private property can never be truly private. It has always been one of the fundamental features of a civilised society that exclusory claims of property stop where the infringement of more basic human freedoms begins."[129]

It is apparent that most developments towards the establishment of a concept of equitable property in ecological resources have occurred in the United States, however, there is evidence to suggest that the concept may also become firmly established in European jurisdictions. Gray notes that the EC may be instrumental in developing a concept of environmental rights enforceable by individuals:

> "Inevitably there will remain some who cannot, even in their wildest dreams, envisage such 'equitable property' vested in the community...Yet there is today one set of institutions which, in this and many other contexts, may convert even your wildest thoughts into present reality. These institutions are, of course, the institutions of the European Community of the European Union."[130]

As will be seen in the next chapter, EC intervention in the field of civil liability for environmental damage may be instrumental in the establishment of a form of equitable property in the environment in Europe.

4. THE EFFECT OF INSURANCE ON THE ROLE OF TORT

As stated above, it is not possible to consider the role of tort in isolation from the issue of insurance; historically, the availability of insurance has affected the development of tort. Thus the extent to which tort may fulfil a useful role, as a means of environmental protection, is partly dependant upon the availability of insurance for environmental

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127 Op. cit., at p. 210.
128 Op. cit., at p. 211.
129 Ibid.
130 Ibid., p. 205.

damage. However, there are particular problems associated with providing insurance cover in this area.

4.1 Public Liability Policies and the 'Pollution Exclusion'

Claims arising from pollution have usually been indemnified by public liability policies (comprehensive general liability (CGL) in the United States). However, following a rapid increase in claims arising from pollution in the early 1970s[131], insurance companies in the US sought to exclude pollution from CGL policies save for that which was caused by "sudden and accidental escapes".[132] In 1991 the Association of British Insurers (ABI) advised British insurers to follow suit and proposed a standard endorsement as follows:

> "This policy excludes all liability in respect of Pollution or Contamination other than pollution caused by a sudden, identifiable, unintended and unexpected accident[133] which takes place in its entirety at a specific time and place during the period of insurance."[134]

Thus, as regards public liability, the general position is now that only costs resulting from an unexpected and temporal event, such as an explosion[135], can be recovered under the terms of the policy. In the US certain courts have, on occasion, attacked the exclusion by finding that 'sudden' denotes any unexpected event rather than a

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131 See Clark, S., "Pollution gives general insurers cold feet", (1994) 34 *International Corporate Law* 25.

132 The ISO pollution exclusion provides: "This policy does not apply to...property damage arising out of the discharge, dispersal or release or escape of smoke, vapours, soot, fumes, acids, alkalis, toxic chemicals, liquids, or gases, waste materials or other irritants, contaminants or pollutants into or upon land, the atmosphere or any water course or body of water: but this exclusion does not apply if such discharge, dispersal, release or escape is sudden and accidental." For an overview of the manner in which the exclusion has been interpreted in the US see Nyssens, A., "Pollution Insurance: The Seepage of American Influence" [1996] *Environmental Liability* 11.

133 It should be noted that, in insurance law, accident means any unexpected event from the point of view of the insured; this does not always mean a calamitous occurrence such as a crash. For example, in *Mills* v. *Smith (Sinclair Third Party)* [1964] 1 Q.B. 30, it was found that damage caused by encroaching tree roots could constitute an accident for the purposes of property insurance. In *Trim Joint District School Board of Management* v. *Kelly* [1914] AC 667 the following test was proposed: "If, so far as the property is concerned, unexpected misfortune happens and damage is caused, the insured is to be indemnified". See Merkin, R.M. and McGee, A. (1989-90), Insurance Contract Law, London: Kluwer, at B.10.6.

134 ABI, Ref: g/250/065, July 23, 1990.

135 See *Staefa Control-Systems, Inc.* v. *St. Paul's Fire & Marine Insurance Co.*, 847 F. Supp. 1460, 1468 (N.D. Cal. 1994), "[T]he 'sudden accident' exception applies only to events that occur quickly, such as an explosion."

temporal occurrence.[136] However, these decisions are exceptional and the view that the event should have a temporal quality has now largely been restored[137].

In the UK, an exclusion of this type was upheld in *Middleton* v. *Wiggins*[138]. In this case a waste disposal company, which had been found liable in respect of an explosion caused by a build up of methane gas emanating from a landfill site, claimed indemnity under their public liability policy. The insurers sought to rely on an endorsement which excluded liability for damage arising from "the disposal of waste materials in the way the insured intended to dispose of them unless such claim arises from an accident in the method of disposal." In the Court of Appeal, Hutchison L.J. held that the accident was not "in the method of disposal" since the unforeseen events which caused the explosion occurred after the waste had been disposed of[139]. McCowan L.J., dissenting, considered that the process of putrefaction and degradation, which causes methane gas, should be regarded as an integral part of the method of disposal[140].

However, the exclusion may not insulate insurers from 'long tail' risks. A catastrophic event, such as an explosion, may cause immediate property damage and personal injuries, in addition, any chemicals released may lead to long term contamination of the surrounding area. The effects of the contamination may not manifest themselves until years later. As most policies are underwritten on an 'occurrence' basis insurance companies are obliged to meet any claims resulting from accidents, occurring during the period of cover, irrespective of whether the policy has expired[141]. As a result, they

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136 See, for example, *Jackson Township Municipal Utilities Authority* v. *Hartford Accident and Indemnity Company*, 451 A. 2d 990 (N.J. Super. Ct. Law Div. 1982). The plaintiff in this case had been held liable in respect of damage caused by contaminants which had leached from a landfill site into a water supply. Despite the fact that the policy excluded pollution, save for that which was caused by sudden and accidental escapes, and that the pollution had occurred over a twelve year period the court held that the plaintiff could recover its costs under its insurance policy.

137 Ranney, N.B., and Ardisson, S., "Recent Developments in California in Respect of the 'Sudden and Accidental' Exception to the Pollution Exclusion", (1995) 2 *International Journal of Insurance Law* 123. The predominant view is that sudden and accidental connotes a temporal quality. See, for example *Trico Industries Inc.* v. *Travellers Indemnity Company* 853 F. Supp. 1190 (C.D. Cal. 1944). In this case the plaintiff company sought to recover costs under its general liability incurred under the Superfund Programme as a result of chemical waste contamination at its site caused by the activities of a previous occupier. Trico argued that the term "sudden" was ambiguous and should be interpreted in its favour so as to read "unexpected". However, the court rejected this argument on the grounds that "most recent decisions...indicate the emerging majority rule to be that 'sudden' contains a temporal element". Applying this to the facts of the case in question it was found that "the decade of continuous pollution at the site was not abrupt, quick or immediate. Since this pollution did not occur suddenly, plaintiff's settlement payments are not covered under the INA policies..."

138 [1996] Env L.R. 17.

139 Ibid., at pp. 24-25.

140 Ibid., at p. 28.

141 *Knight* v. *Faith* (1850) 15 Q.B. 649, per Lord Campbell C.J., at p. 667; *Daff* v. *Midland Colliery*

may find themselves liable in respect of unforeseen damage. In the US, for example, the unforeseen long term consequences of an intentional act have been found to constitute unexpected events covered by the exception to the pollution exclusion[142].

As a result of such problems, certain insurers in the US have attempted to entirely exclude liability for environmental damage from CGL policies[143]. It would be more difficult for European Insurers to take this step *en masse* due to EU competition rules which may prevent them from operating as a cartel[144]. Nevertheless, the mere threat of the total withdrawal of insurance companies from this market would certainly not be conducive to an increased role for tort as a means of environmental protection. However, as the environmental damage field is a potentially lucrative market, the insurance industry has begun investigating solutions.

4.2 Environmental Impairment Liability

In recent years insurance companies have developed specialist environmental impairment liability (EIL) policies designed to fund clean up costs associated with accidents. At present the product is only offered by a limited number of companies in the UK, principally, AIG Europe (UK), ECS Underwriters (as agents for Reliance Insurers), Swiss Re, Michael Payne Syndicate at LLoyd's and Sun Alliance.[145]

Such policies are expensive as they are not available 'off the peg' and must be tailor made according to the nature of the environmental hazard at a particular site. To this

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Owners' Indemnity Co (1913) 6 BWCC 799, per Lord Moulton, at p. 820. See generally, Hardy-Evamy, E.R. (1993), *General Principles of Insurance Law*, Butterworths, chapter 37.

142 In *Waste Management Inc* v. *Peerless Insurance Co*, 340 S.E.2d (N.C. 1986) the insured were covered because, although the discharge of toxins into a landfill was intentional, the subsequent contamination of a drinking water supply was unexpected and unintended.

143 Nyssens, op. cit., has found two decisions in which a total exclusion has been upheld by the courts, viz, *Titan Holding Syndicate Inc* v. *City of Keene*, 898 F.2d 265 (1 Cir. 1990) and *Park-Ohio Industries Inc* v. *Home Indemnity Co*, 975 F. 2d 1215 (6 Cir. 1992). The Louisiana Supreme Court rejected a total exclusion in *South Central Bell Telephone Co* v. *Ka-Jon Food Stores of Louisiana Inc and Others*, 93-CC-2926, May 1994, however, this was largely due to the fact that the insurers had misled the insurerd as to the inclusion and effect of the endorsement.

144 Layard argues that a co-ordinated position adopted by the British Insurance Industry as a whole, which affects the competitiveness of other groupings, could amount to an abuse "...of a dominant position within the common market or within a substantial part of it" contrary to Article 82 EC (86 prior to the Treaty of Amsterdam). See Layard, A., "Insuring Pollution in the UK" [1996] *Environmental Liability* 17, at p. 18. However, it is more likely that such an agreement could fall foul of Article 81 EC (85 prior to Treaty of Amsterdam) which restricts agreements between undertakings which "[L]imit or control production, markets, technical development, or investment". Article 86 is designed to control restrictive practices adopted by specific dominant companies rather than entire business sectors. See Craig, P. and De Burca G. (1998), *EU Law*, Oxford University Press, at pp. 972-975.

145 See Holmes, R., and Broughton, M., "Insurance Cover for Damage to the Environment", 9513 *Estates Gazette* 123, at p. 124.

end the party seeking insurance must first answer a detailed questionnaire regarding the nature of his activities and the history of the site. The insurers may then appoint environmental consultants, at the prospective insured's expense[146], to conduct an on site inspection and produce a detailed report. Based upon this information[147] risk engineers will make a recommendation as to whether cover should be offered; if this is favourable the underwriters will draft a policy.

However, EIL policies in the UK do not serve as 'blank cheques' to meet open ended costs. This is because the insurers have chosen to insert 'claims made' triggers rather than the more usual 'occurrence' triggers[148]. Thus, the insured may only seek indemnity in respect of claims made during the currency of the policy or within a specified period after its expiration. This insulates the insurers from the problem of 'long tail' risks. Although claims made policies are legal under English Law[149] they have been ruled illegal in certain European jurisdictions or subjected to statutory controls[150]. These restrictions have been counter-productive in that the development of the EIL market in the UK and US is largely due to the legality of claims made policies.[151]

A further restriction is that the insured may only seek indemnity in respect of fortuitous as opposed to inevitable escapes. This precludes latent damage caused during the normal course of operations without any breach of applicable regulations. To this end a standard clause has emerged in EIL policies which excludes:

> "Any liability arising from Environmental Impairment which is inevitable having regard to the cumulative effects of the normal Business of the Insured and where the harmful nature of any contaminant or irritant was known or should reasonably have been known by the Insured."[152]

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146 Ibid. An independent survey costs between £3,500 and £5,000.

147 See Marshall, R., "Environmental Impairment - Insurance Perspectives", (1994) 3(2/3) *Review of European Community and International Environmental Law* 153, at p. 156. The particular factors to be taken into account include type of activity; materials used; geology of the site; the flow of watercourses; prevailing meteorological conditions; political climate (e.g. media coverage, activity of pressure groups); managerial attitudes; claims history; compliance with regulations etc.

148 Ibid., at p. 154-155.

149 *Pennsylvania Co for Insurance on Lives and Granting Annuities* v. *Mumford* [1920] 2 K.B. 537; *Maxwell* v. *Price* [1960] 2 Lloyd's Rep 155. See Hardy-Ivamy, op. cit., at p. 405.

150 See Lee, R.G., "Claims-Made Policies: European Occurrences" [1994] *Environmental Liability* 25.

151 See Lee, op. cit., and Marshall, op. cit., at p. 154-155.

152 See Marshall, op. cit., at p. 156.Thus in a case such as *Cambridge Water* (assuming for the moment that it had been possible to bring a claim during the period of cover) the exclusion would not have precluded Cambridge Water from indemnification. It will be recalled that the hazardous nature of the chemical released was not known at the material time.

This is consistent with general principles of English Law which provide that an insured cannot, at the insurer's expense, purchase the right to continue a nuisance[153].

Despite these limitations, EIL policies still afford more scope for the recovery of costs, associated with pollution damage, than claims brought under the sudden and accidental exemption to the pollution exclusion in public liability policies. This is because they are specifically geared to providing indemnity in respect of accidental pollution. For example, in *Middleton* v. *Wiggins* it will be recalled that a very restrictive interpretation was placed on the exception to the pollution exclusion. Thus the insured could not claim in respect of the on-going hazard caused by the landfill. Such costs are, however, anticipated by the specialist Landfill Cover EIL policy offered by the Swiss Re-insurance Company. This provides cover while waste is being dumped (the 'active' period) and for ten years after the site has been filled in (the 'passive' period)[154]. Had such a policy operated in a case such as *Middleton* v. *Wiggins* the operators would have been indemnified notwithstanding the fact that the site had been closed.

4.3 Re-evaluation of Existing Public Liability Policies

It is doubtful whether the EIL market can provide a complete solution, in the short term at least, to the problem of insuring against environmental damage. To date, only a limited number of companies offer the product in the UK and the market in other European countries has been limited by hostility to 'claims made' triggers.

This has led Holmes and Broughton[155] to consider whether it would be viable for insurers to continue using public liability policies in this context, subject to the pollution exclusion. Above it was noted that claims brought under the exception to the exclusion, namely damage resulting from sudden and accidental escapes, may expose insurers to far greater clean up costs than they anticipated. Holmes and Broughton argue that insurers have been short sighted in continuing to offer this form of pollution cover, as part of public liability policies, without requiring any site surveys and without increasing premiums accordingly. Hence the potentially huge costs associated

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153 *Corbin* v. *Payne*, *The Times*, October 11 1990.
154 See Marshall, op. cit., at p. 157. The insured's premiums are held in a fund together with an additional lump sum payment. Any liabilities incurred during the passive phase are met from the fund. If no liabilities are incurred, the lump sum payment will be returned at the expiration of the policy.
155 Op. cit., at pp. 124-125.

with clean up[156] are effectively provided "free of charge"[157] as part of standard 'off the peg' public liability policies. Holmes and Broughton conclude that the solution may be for insurers to require risk assessments as standard before agreeing to offer public liability insurance covering accidental pollution[158]. They point out that, in order to reduce costs, it would be a relatively straightforward task to categorize activities according to risk on the basis of the information supplied by the insured[159]. This is not necessarily an onerous requirement in that many operators are already accustomed to producing such information for the purpose of risk assessments[160]. Indeed, there is now a British Standard (BS7750) for conducting environmental hazard audits. Detailed site surveys, of the type introduced under EIL, could be reserved for the more hazardous classifications.

4.4 Effect of Insurance on Risk Management

The existence of insurance does not undermine the element of individual accountability associated with liability in tort. Insurance is principally designed to provide cover in respect of fortuitous events such as accidents. In order to reduce the risk of such events occurring, insurers may exert a great deal of influence on operators to reduce the risk of accidents. This is certainly the case as regards the provision of EIL cover. As described above, detailed site audits must be undertaken and any deficiencies corrected before cover will be offered; this will usually be followed by annual assessments as part of the renewal process. Furthermore, it may be a condition of cover that certain pollution prevention measures are adopted.[161] Thus, far from

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156 For example, in the aftermath of the fire at a warehouse owned by Sandoz in Schweizerhalle, Switzerland, in which water used to fight the fire washed chemicals into a river, clean up costs amounted to £57m. Sandoz successfully claimed all costs from their insurers. See Holmes and Broughton, op. cit., at p. 124.

157 See Schubert, M. (manager Casualty Facultative, Cologne RE), "Sitting on a Time Bomb", *Post Magazine* (insurance trade journal) March 9 1995: "For many industrial and commercial operations the environmental hazard is a prime exposure. Nevertheless, in the majority of cases this hazard is neither assessed nor rated properly. Many insurers are knowingly providing cover for an exposure that has grown exponentially, and they are doing so indiscriminately and virtually free of charge."

158 Op. cit., at p. 124-125.

159 Ibid.

160 See, for example EC Directive 82/501/EEC (OJ No. L 230/1) on the major accident hazards of certain industrial activities, the 'Seveso Directive' (as amended by Directives 87/216/EEC and 88/610/EEC); implemented in the UK through the Control of Major Accident Hazards Regulations 1984, SI No. 1902, as amended. This requires specified operators to carry out detailed risk assessments for the purpose of drawing up emergency contingency plans. See Mumma, A. (1995), *Environmental Law - Meeting UK and EC Requirements*, McGraw-Hill, at pp. 200-201.

161 British and European Insurers advocate the establishment of a set of environmental compliance conditions for environmental policies. See Lewis, Kirk, D., "Deterring Pollution", (1995) *Business Insurance* 23; McDonald, J., "Financial Responsibility Requirements: Liability Insurance as an Environmental Management Tool" [1996] *Environmental Liability* 2.

absolving polluters of liability, insurance companies may be instrumental in requiring polluters to reduce the risk of their activities. As the chief executive of a major insurer has stated:

> "We feel insurance and loss prevention go hand in hand with proactive environmental protection. From an economic viewpoint, it is more profitable to employ resources in prevention than in paying insurance claims."[162]

To date, the provision of cover for sudden and accidental escapes under standard public liability policies has not been accompanied by similar incentives for the management of environmental risks. Nevertheless, as a matter economic necessity, insurers will soon have to remedy this situation by introducing measures of the type described by Holmes and Broughton.[163]

Existing public liability policies do, however, provide an incentive for the insured to limit the consequences of pollution due to the fact that the insured is under a general duty to mitigate the loss. This is demonstrated by the case of *Yorkshire Water Services Ltd* v. *Sun Alliance and London Insurance Plc*[164] which concerned damage caused by the deposit of sewage sludge into a river. The sewage affected an ICI chemical works which, somewhat ironically, found itself as the victim of pollution. Yorkshire Water settled a claim of £300,000 with ICI and sought to recover this amount under its public liability policy. In addition it claimed costs in respect of alleviation work it had carried out in order to limit the spread of the sewage. Yorkshire Water argued that they should be indemnified in respect of these costs since they mitigated the loss which the insurers may otherwise have had to meet. The Court of Appeal rejected this argument and held that there was no implied term in the policy which would allow the recovery of such costs. A loss which had not yet occurred could not be quantified.

Thus, there is a close link between the conduct of the insured and the availability of insurance. The viability of the insurance contract very much depends upon the ability of the insured to mitigate the losses passed to the insurers. Thus, in this respect, although insurance introduces notions of distributional justice, it also dovetails with the corrective functions of tort in that it is consistent with individual accountability. This limits the availability of insurance, and hence the role of tort, as a means of environmental protection in cases where the insured does not have the opportunity to

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162 A. Konswold, quoted in Lewis-Kirk, op. cit., n. 41.
163 Op. cit.
164 [1997] 2 LLoyd's Rep. 21.

internalize any of the costs for which he is held liable. This problem is particularly acute in the case of historic pollution.

4.5 The Problem of Historic Pollution

On occasion, it has been mooted whether tort can play any part in the allocation of responsibility for historic pollution. For example, in its response to the House of Commons Select Committee Report on Contaminated Land, the UK Government stated:

> "The Committee have recommended that there should be a clearer position on liability for damage caused by contamination and that urgent attention should be given to the possibility of creating statutory liability. That recommendation has arisen from the Committee's discovery that there appear to be no reported cases in the UK concerning the application of relevant common law principles to contaminated land issues...
>
> ...The Government's basic view is that the firm UK common law tradition should only be set aside where it is clearly demonstrated that such principles are inappropriate. Consequently, the case for statutory liability should first depend upon a test of the current principles in the Courts. In particular, *Rylands* v. *Fletcher* could have extensive implications in its application to questions of contamination."[165].

Since this statement the House of Lords has made it clear, in *Cambridge Water* v. *Eastern Counties Leather*[166], that there is no prospect of the common law being used to hold operators liable in respect of historic pollution. It will be recalled from chapter 2 that Lord Goff stated that it would be for the legislature to develop civil liability in this manner. However, it would not be advisable for the legislature to take this step for the following reasons.

Such an application would divest tort of its corrective functions and convert it into a purely distributional instrument. As the pollution has already occurred the responsible parties are not in a position to internalize any of the costs. Thus, if such a scheme were to be introduced, in may cases, insurers would bear the brunt of unmitigated losses.

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165 *Contaminated Land*, Government Response to First Report of the House of Commons Environment Committee, Cm. 1161, July 1990, p. 13 at 4.13.
166 [1994] 2 A.C. 264.

This would no doubt lead to the total exclusion of cover for any form of pollution damage[167].

This is demonstrated by the experience in the United States where an attempt was made to finance the clean up of contaminated land under the Comprehensive Environmental Response Compensation and Liability Act 1981 (CERCLA)[168], commonly referred to as 'Superfund'.

The scheme was instigated following the 'Love Canal' incident which highlighted the problem of contaminated land[169]. CERCLA introduced a scheme which empowers the State to effect the clean up of designated areas of contaminated land[170] and to recover the costs from 'responsible parties' who include both present and past operators. Liability for clean up costs is strict[171] and joint and several between the responsible parties. Thus, the present occupier of a site may find himself held responsible for full clean up costs even though the bulk of the contamination may have been attributable to a previous operator[172]. Where it is not possible to trace any responsible party costs have to be recovered from a central clean up fund which is financed through taxes on polluting industries[173].

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[167] Prior to the Court of Appeal judgment in *Cambridge Water* v. *Eastern Counties Leather*, the Association of British Insurers (ABI) issued a press release which stated that, if the Court found in favour of Cambridge Water, its members would be forced to withdraw cover for pollution altogether. See Layard, op. cit., at p. 18.

[168] 42 U.S.C. 9601 et seq.

[169] Between 1942 and 1953, the Hooker Chemical Company dumped 21,000 tons of chemical waste into an abandoned canal, known as the Love Canal, in Niagara Falls, New York. The area of land including the canal was sold in 1953 to the local board of education which built a school upon the site; over the years that followed this gave rise to an entire community. In the 1970s contaminated groundwater began seeping into basements and yards. In May 1980 President Jimmy Carter declared a state of emergency and ordered the relocation of 710 families.

[170] For this purpose the Environmental Protection Agency compiles a National Priorities list setting out those sites most urgently in need of clean-up. Due to the scale of the problem, only about 4% of contaminated sites reported to the EPA are included on the list. See Sacripanti, P.J., and Traeger, K.E., "Super clean", *Environment Risk* (1991) 1, pp.13-20.

[171] CERCLA paragraph 107(a), 42 USC paragraph 9607(a). These provisions are silent as to the need to establish fault and have therefore been interpreted as establishing strict liability.

[172] This is subject to certain limited defences set out in paragraph 107(b), 42 USC paragraph 9607(b): these include act of God; act of war; acts solely attributable to independent contractors. In addition paragraph 101(35)(A), 42 USC paragraph 9601 (35)(A) provides a limited "innocent landowner" defence which may be relied upon by persons who made "all appropriate inquiry" prior to purchasing a property and had no knowledge of the contamination. Furthermore, paragraph 107(j), 42 USC paragraph 9607(j) provides a defence in respect of "federally permitted releases" i.e. releases made in pursuance of a discharge consent.

[173] Taxes are apportioned between various industries as follows: $550m PA from petroleum excise taxes; $275m PA from chemical feedstock excise taxes. In addition, Congress occasionally supplements the fund with appropriations from general taxes. The cost of clean-up under Superfund amounts to $35m per year, thus, in order to safeguard the fund, it is necessary to recover from a responsible party wherever possible. The State succeeds in recovering approximately 60% of clean up costs from responsible parties.

The scheme resulted in massive losses for insurers[174] and led many to withdraw cover for pollution damage altogether[175]. This led to the closure of certain companies who could not pursue their activities without appropriate insurance cover. It could be argued that, in certain cases, such an outcome would be desirable if it resulted in the discontinuance of a harmful activity. However, this does not, of course, take into account the fact that there may be advantages associated with the activity which outweigh the disadvantages. For example, certain companies involved in the management of hazardous waste were unable to continue their activities on the grounds that they were unable to obtain cover[176]. From an environmental perspective this was counterproductive in that hazardous waste cannot be disposed of safely without such companies.

For this reason it is important that the role of tort does not become embroiled in the debate regarding the clean up of historic pollution. Tort rules, backed by insurance, govern present and future conduct, it is inappropriate to use the system as a means of dealing with the consequences of past activities when different standards pervaded. The linking of tort with the issue of historic pollution has deflected attention from the use of tort in future and has had a deleterious effect on the development of new insurance strategies. As Marshall notes: "Is there any incentive for a buyer of insurance to invest in the future, particularly when the focus is on the past and the problems of today?"[177]

5. CONCLUSIONS

It is conceptually possible to harness private law in pursuit of public interest objectives. The pluralistic view of tort, perhaps grounded in Englard's interpretation of the theory of complementarity, provides a sound philosophical basis for the use of tort

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See Sacripanti and Traeger, op. cit.

[174] In 1994 Lloyd's of London announced that they had incurred losses of £2bn and that half this loss was due to worsening asbestosis and pollution claims in the United States. See Holmes and Broughton, op. cit.

[175] See Huber, P. (1988) "Environmental Hazards and Liability Law", in R.E. Litan and C. Winston (eds.), *Liability Perspectives and Policy*, The Brookings Institution.

[176] See US Department of Justice (1986), *Report of the Tort Policy Working Group on the Causes, Extent and Policy Implications of the Current Crisis in Insurance Availability and Affordability*, Washington D.C. Forty seven companies involved in the management of hazardous waste were compelled to close their facilities due to the fact that they were unable to obtain insurance for their operations. In another report it was claimed that 400 consulting engineering firms involved in offering advice to toxic waste handlers were "refusing to handle toxic waste sites unless their clients protecte[d] them from lawsuits", on the grounds that they had been "unable to purchase pollution liability insurance in any amount, at any price." See "New Snag in Toxic Cleanups", *New York Times*, September 8, 1986.

[177] Op. cit., at p. 158.

in an environmental context. The manner in which tort has developed, particularly since the nineteenth century, shows that it is no longer possible to isolate a private dispute from the distributional objectives of society. However, it is equally unrealistic to determine these distributional objectives in accordance with narrow wealth maximization criteria. As Posner now seems to admit, the market may no longer be regarded as providing a reliable indicator of the value of natural resources. These determinations must now be made by reference to wider criteria including the predominant moral and political philosophy; this clearly includes recognition of the desirability of environmental protection.

The law of tort has the capacity to augment regulatory responses by affording each member of society the ability to participate in policing the environment. At present, this depends upon whether an individual, or organization, can establish a direct proprietary interest in the resource affected. However, as the arguments put forward by Reich, Macpherson and Gray suggest, it may be possible to extend this approach one step further and confer a form of 'equitable property' in the environment upon each member of society. This would open the way for representative actions undertaken by an environmental interest group on the publics' behalf.

However, although tort can accommodate distributional objectives, it must always be borne in mind that its correctional functions serve an important purpose. The element of individual accountability associated with tort provides incentives for risk management. If tort liability is extended into areas in which their is no opportunity to internalize costs, such as historic pollution, insurance becomes unworkable and costs unsustainable.

As will be seen in the next chapter, there is evidence to suggest that the EC is particularly attracted by the capacity of civil liability to serve as a means of private enforcement of environmental standards.

Chapter 5

European Initiatives on Civil Liability for Environmental Damage

1. INTRODUCTION

The EC has been at the forefront of recent initiatives on the introduction of a specialist environmental civil liability regime. To date no actual legislation has been implemented, however, certain Member States of the EC have already introduced their own schemes. Given the fact that most EC environmental legislation is of an administrative nature, and is implemented by regulatory authorities, it is not immediately apparent where civil liability fits into the EC's environmental strategy. The purpose of this chapter is therefore, to explore the reasons for EC intervention in this field. The specific proposals generated by the EC initiatives are examined in the next chapter.

In the previous chapter, the idea was introduced that there is a conceptual basis which would allow civil liability to be used as a means of protecting environmental rights. A nascent concept of environmental rights is beginning to emerge in EC environmental policy; below it is argued that EC initiatives on civil liability for environmental damage represent an integral part in the development of this concept.

The Treaty of Amsterdam has recently altered the numbering of articles in the Treaty of Rome. Articles will be referred to according to their new numbers, however, in order to avoid confusion, the previous numbers will also be indicated.

2. GENERAL EC ENVIRONMENTAL POLICY

2.1 Background

There was no European environmental policy at the inception of the EEC by the Treaty of Rome in 1957. In the post-war years the main objective of the EC was to link economies in a manner which would facilitate economic expansion and bring about increased prosperity, employment and better housing. It was hoped that this would create the stable social and economic conditions necessary to ensure a lasting peace in Europe. At this time there was no appreciation of how environmental protection might be accommodated by this overall strategy. Although public health issues were recognized as being associated with the standard of living, the objectives of environmental protection in the widest sense of the term and economic expansion were generally considered as being irreconcilable; it was the latter objective which took priority.

However, in the same year as the signing of the Treaty of Rome, a new awareness of the heavy price which the environment was having to pay as a result of the pursuit of these objectives began to emerge following the publication of the book, *Silent Spring*, by Rachel Carson. This focused on the abuse of pesticides in agriculture and the consequential poisoning of birds eggs which, it was feared, would literally result in a 'Silent Spring'. Ten years later the 1967 *Torrey Canyon* disaster marked the first in a continuing series of highly publicized peace time environmental catastrophes. By stirring the public conscience, events such as these created the political climate necessary for action[1].

It was against this background that the Community Institutions began to consider whether it was desirable to formulate a Community environmental policy. In 1970 the Commission sent a memorandum to the Council stating that it was necessary to draw up a Community Action Programme on the environment; this was soon followed by a formal communication in July 1971[2]. There was then considerable debate as to whether action on the environment should take the form of inter-governmental agreements and co-ordination of national policies or action at Community level. The Commission, following consultation with the Parliament, decided in favour of the latter approach and was supported by the October 1972 European Council which declared:

> "Economic expansion is not an end in itself. Its firm aim should be to enable disparities in living conditions to be reduced. It must take place with the participation of all the social partners. It should result in an improvement in the quality of life as well as in standards of living. As befits the genius of Europe, particular attention will be given to intangible values and to protecting the environment, so that progress may really be put at the service of mankind."[3]

2.2 Sources of EC Legislation

In the wake of the above developments the EEC instigated the first in a series of environmental action programmes[4] which provided a guiding policy framework for the implementation of environmental protection measures[5]. Although environmental

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[1] See Kiss, A., and Shelton, D. (1990), *Manual of European Environmental Law*, Cambridge University Press, Chapter 1.
[2] Commission SEC(71)2616 final (July 22, 1971).
[3] Commission, Sixth General Report (1972), p.8.
[4] OJ No. C 112 of 20 December 1973.
[5] Action Programmes do not in themselves have any binding effect, rather, they are, "Political declarations of intent which take all the measures planned for a certain period, place them in an overall

objectives were yet to be incorporated in the Treaty of Rome, it was still possible to introduce secondary legislation by virtue of Article 235 (now Article 308) which facilitates legislation in the absence of specific Treaty provisions[6].

The Single European Act, which represented the first major overhaul of the Treaty of Rome, provided the opportunity to include environmental objectives in the primary legislation of the EC. To this end a new chapter, Title XVI (now XIX), was introduced which included three new Articles, viz, 130r, 130s and 130t (now Articles 174, 175 and 176 respectively). This provides a specific platform for environmental legislation. The Treaty on European Union commenced the process of 'greening the treaty'. The object of this exercise has been to incorporate environmental objectives into all areas of policy so that the environment is not regarded as a distinct policy area. To this end the objective of "sustainable and non-inflationary growth respecting the environment" was inserted into the main aims of the Community as set out in Article 2. The Treaty of Amsterdam has removed the rather vague concept of "respecting the environment" and introduced the more concrete objective of 'sustainable development'. This was defined by the Brundtland Commission as follows:

> "Sustainable development is development that meets the need of the present without compromising the ability of future generations to meet their own needs."

Doubts have been expressed regarding whether this development will have a significant effect on future environmental policy. This is largely because the Treaty does not make it clear whether 'sustainable development' has priority over 'sustainable growth'. The two concepts are not necessarily compatible in that 'sustainable development' cannot mean ever increasing consumption of limited resources This would meet the needs of the present at the expense of future generations[7].

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context, set priorities and, if necessary, introduce or explain changes in due course." See Krämer, L. (1990), *EEC Treaty and Environmental Protection*, Sweet & Maxwell, at p. 2.

[6] The legality of using Article 235 was confirmed in Case 240/83 *ADBHU* [1985] E.C.R. 531 concerning a directive on the disposal of waste oils.

[7] See Haigh, N., (1998), "Introducing the Concept of Sustainable Development into the Treaties of the European Union", in T. O'Riordan and H. Voisen (eds.), *The Transition to Sustainability: Politics of Agenda 21 in Europe*, Earthscan.

2.3 Legal Basis

It is likely that any future legislation on environmental liability would be passed on the basis of the Community's environment policy as set out in Title XIX. For a time there was also a possibility that legislation on environmental liability could be passed on the basis of Article 100a (now Article 95), on approximation of laws affecting the internal market[8]. However, for reasons which shall be discussed in due course this is now most unlikely.

2.3.1 Articles 174, 175, and 176 (formerly Articles, 130r, 130s, 130t)

Article 174(1) sets out the objectives of the EC's environmental policy which are stated as being the preservation, protection and improvement of the quality of the environment, the protection of human health, and the prudent and rational utilisation of resources. Article 174(2) then sets out the principles by which the EC should seek to attain these objectives, namely, that action shall be based upon the precautionary principle, preventative action should be preferred to remedial measures[9]; environmental damage should be rectified at source and the 'polluter pays' principle. The original Article 130r(2) also stated that environmental policies should form a component of the EC's other policies (the 'integration requirement'). This is intended to 'green the treaty' by ensuring that environmental issues are taken into account in all policy areas. However, its location in the Environment Chapter was incompatible with this objective in that, as Poostchi states "This failed to give out the necessary political message that the integration obligation applied to all policy areas"[10]. As a result, the integration requirement has now been moved to the general principles of Community policy where it is set out in a new Article 3C.

Article 175 sets out the legislative procedure to be followed by the institutions[11] and Article 176 makes the important assertion that "protective measures adopted pursuant

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[8] Defined in Article 14(2) (formerly Article 7a(2)) as "an area without internal frontiers in which the free movement of goods, persons services capital is ensured in accordance with the provisions of the Treaty.

[9] It is not entirely clear how this differs from the precautionary principle. Krämer has suggested that the precautionary principle may refer to the environmental policy as a whole whereas the preventative principle refers to the individual action. See Krämer, L. (1995), *EC Treaty and Environmental Law*, Butterworths, at p. 54.

[10] Poostchi, B., "The 1997 Treaty of Amsterdam - Implications for EU Environmental Law and Policy Making", (1998) 7(1) *Review of European Community and International Environmental Law* 76, at p. 78.

[11] Until recently, most measures based upon the old Article 130s were subject to qualified majority voting (QMV) in Council following the Article 189c (now Article 248) ('co-operation') procedure (an enhanced consultation procedure allowing Parliament a second reading and the ability to compel Council to act unanimously if it refuses to accept Parliament's recommendations). However, the Treaty of Amsterdam will render the new Article 175 subject to the Article 247 (formerly Article 189b)

to Article 175 shall not prevent any Member State from maintaining or introducing more stringent protective measures." This is provided that such measures are compatible with the Treaty and are notified to the Commission.

2.3.2 Article 95 (formerly Article 100a)

Articles 174 to 176 are specifically concerned with environmental protection. The second limb of the EC's environment policy is concerned with the establishment of the internal, or single, market. Legislation related to this area of policy must be based upon Article 95[12].

One of the fundamental objectives of the EC is to establish a single market in which domestic goods produced in one Member State can compete on an equal footing with goods imported from any other Member State. If the laws governing the manufacture and distribution of products vary between Member States there is a risk that the market will be distorted. For example, it may be more difficult for manufacturers of imported goods to comply with the regulations[13]. Hence, Directives designed to facilitate the establishment of the internal market by, for example, harmonizing the laws governing certain activities, may be passed on the basis of Article 95. Furthermore, Article 95(3), clearly contemplates the implementation of Directives which may also have environmental objectives since it provides that, where action is taken concerning health, safety, environmental or consumer protection, a high level of protection should be achieved.

2.3.3 Correct Treaty Basis

The issue of the whether an item of legislation should be based on Article 175 or 95 is of importance in that legislation must be based on the most appropriate Article. Basing legislation on the wrong Article may constitute a breach of an essential procedural requirement. This may render the legislation susceptible to challenge by Member States, or other EC Institutions, under the Article 230 (previously Article 173) annulment procedure. Furthermore, from a practical point of view, the area of policy with which the legislation is primarily concerned determines which of the Commissions Directorates assumes responsibility for its enforcement.

('co-decision') procedure. This is a complex procedure, suffice to say, it affords the Parliament equal legislative powers to those enjoyed by the Council; thus, the Council may not proceed without the agreement of the Parliament.

[12] The European Court of Justice confirmed the legality of basing such measures on Article 100 in Case 92/79 *Commission* v. *Italy* [1980] E.C.R. 1115 concerning Directive 75/716 on the maximum sulphur content in liquid fuels.

[13] See *Commission* v. *Denmark* (Re Disposable Beer Cans) (case 302/86) [1989] C.M.L.R. 619.

As a result of challenges brought under the former Article 173, it has fallen to the European Court of Justice (ECJ) to determine the circumstances in which environmental legislation should be passed on the basis of the former Article 100 or 100a as opposed to the former 130s. In Case C155/91, *Commission* v. *Council*[14], concerning the correct basis of Directive 91/156 amending framework Directive 75/442 on waste, the Court of Justice stated that the determining factor was the centre of gravity of the Directive; mere ancillary free market effects would not suffice to bring the Directive within the ambit of Article 100a.

The scope of Article 95, as a basis for environmental legislation, has been further limited by certain amendments introduced by the Treaty of Amsterdam. To recap, the former Article 100a(3) placed a responsibility on the Commission to "take as a base a high level of protection" when formulating proposals having an environmental impact. The new Article 95(3) has added an important proviso which states that this determination should take into account "any new development based upon scientific fact". Poostchi[15] is concerned that the use of the word 'fact' denotes conclusive scientific evidence; this would not accord with the precautionary principle. By the time such evidence is forthcoming the harm is already likely to have occurred. This suggests that the EC is still somewhat ambivalent regarding the extent to which it is prepared to allow restrictions on trade in pursuit of environmental, or other public interest objectives.[16] No such limitation has been introduced into the environment chapter (Title XIX). In the next chapter it will be seen that certain environmental liability proposals embody the precautionary principle. For example, a reversal of the burden of proof on causation may dispense with the need to establish cause and effect with scientific certainty. It would be difficult to justify such measures on the basis of Article 95 and leads to the inevitable conclusion that Article 176 is the only possible basis. This inconsistency is, perhaps, indicative of the fact that the EC has still not fully reconciled its internal market and environmental policies. It has yet to establish a hierarchy of norms in which environmental considerations take precedence.

A final consideration, which may also militate against the use of Article 95, is that, following changes introduced by Amsterdam, the European Parliament is now less

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14 [1993] E.C.R. 939.
15 Op. cit., at p. 80.
16 See, for example, Case 178/84, *Commission* v. *Germany* [1987] ECR 1227. Germany sought to ban the marketing of beer which contained additives. Since this affected imports the restriction constituted a prima facie breach of the Article 30 (now 28) prohibition on quantitative restrictions. Germany sought to justify this under the Article 36 (now 30) derogations on the grounds that the measure was necessary in the interests of public health. However, the ECJ held that the defence would not apply as there was insufficient scientific evidence from, *inter alia*, the World Health Organization to support this claim.

likely to challenge environmental measures on procedural grounds. Previously, the Parliament enjoyed greater legislative powers in internal market matters than in environmental matters. Whereas measures based under the old Article 100a were subject to the co-decision procedure, measures based upon the former Article 130s were subject to the co-operation procedure. In order to safeguard its powers, the Parliament has challenged environmental measures which it considers should have been passed on the basis of internal market policy[17]. Save for certain exceptions[18], most environmental measures introduced on the basis of the new Article 175 will now also be subject to the co-decision procedure[19]. This reduces the likelihood of 'boundary disputes'.[20]

2.4 Subsidiarity

The concept of subsidiarity was first introduced, exclusively as an aspect of environmental policy, by the SEA; this inserted an Article 130r(4) which provided:

> "The Community shall take action relating to the environment to the extent to which (objectives) can be better attained at the Community Level than at the level of individual Member States."

This was superseded by the Maastricht Treaty which expressly adopted the principle of subsidiarity as a general principle of EC law. To this end, Article 3b (now Article 5) was inserted into the Treaty of Rome which provides:

> "In areas which do not fall within its exclusive competence, the Community shall take action, in accordance with the principle of Subsidiarity, only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States and can therefore, by reason of the scale or effects of the proposed action, be better achieved by the Community."

Subsidiarity is an ancient philosophical concept[21] which can both limit and facilitate action by a higher authority depending upon which of its two etymological origins

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[17] See Case 187/93 *European Parliament* v. *Council* (Waste Regulation) [1994] E.C.R. 1-2874.
[18] These are set out in Article 175(2) (formerly Article 130s(2)) and include provisions of a fiscal nature; measures concerning town and country planning and land use in general; and measures affecting a Member State's choice of energy supply. In these cases measures must be passed by unanimity in Council following consultation with Parliament.
[19] See note 11, above.
[20] See Craig, P., and De Búrca, G., (1998), *EU Law*, Oxford, at p. 1120.
[21] Some academics claim to have traced its origins as far back as Aristotle, see Millon-Delsol, *L'état subsidaire*, Paris, PUF, 1992.

emphasis is placed[22]. This will normally depend upon the context in which it arises; in the context of European Union it can be viewed as a prescriptive enabling power which determines the circumstances in which the EC is entitled to intervene[23]. In short, it seeks to ensure that a higher authority does not overwhelm a lower authority and only assumes competence in a matter when this is necessary in order to attain an objective. For example, in *R* v. *London Boroughs Transport Committee, ex parte, Freight Transport Association*[24], the House of Lords determined that local authorities are in the best position to determine how heavy goods vehicles should be regulated in cities in the interests of environmental protection. Lord Templeman reasoned that centrally imposed controls cannot take account of the different local factors which pertain in each city[25].

Furthermore, even where a case for Community intervention is established, any action must only be to the extent necessary to attain the objective. This is known as the proportionality principle and is expressed in Article 5 (formerly 3b) as follows:

> "Any action by the Community shall not go beyond what is necessary to achieve the objectives of this Treaty."

3. DEVELOPMENT OF AN EC ENVIRONMENTAL LIABILITY POLICY

3.1 Impetus for EC Action on Civil Liability for Environmental Damage

Since the instigation of its first Action Programme in 1973, the Community has accumulated a substantial body of environmental legislation. However, most

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[22] See Council of Europe Research Paper, *Definition and limits of the principle of subsidiarity*, Local and regional authorities in Europe, No. 55, Council of Europe Press 1994, p. 10, "The first meaning of the word 'subsidiarity' evokes the idea of substitution, hence something of secondary, lesser importance. It is in fact the name given in Antiquity to reserve troops. This means that the higher authority, primarily the state, can intervene only to the extent to which the lower authority (or the individual) has shown or proved its incapacity...The second meaning evokes the idea of help (subsidum) and has the connotation of the idea of intervention."

[23] Thus where the principle is used to determine the allocation of responsibilities between a sovereign state and its regions or local authorities, emphasis is placed on the restrictive aspects of the concept in that the power relationship is tilted in favour of the higher authority. The Council of Europe Research Paper, op. cit., states, at p. 14 "There appears to be a fundamental difference between the Council of Europe's approach and that of the EEC. The latter has to find a balance between the political objective of union and the initial powers of the states...while the former simply has the priority task of spreading local and regional self government as widely as possible, without any interference, in the internal organisation of its members."

[24] [1992] 1 C.M.L.R. 5.

[25] Ibid., at paras. 32-33. See generally D'Sa, R.M. (1994), *European Community Law and Civil Remedies in England and Wales*, Sweet & Maxwell, at pp. 72-77.

environmental measures take the form of Directives which are designed to achieve an overall reduction in the level of pollutants released into the environment during the normal course of industrial processes[26]. This approach does not deal with the consequences of abnormal, unintentional pollution either resulting from sudden, large scale escapes of noxious substances or gradual accumulations. Such incidents often result in the release of high concentrations of pollutants capable of causing damage to both real and personal property and, in the most extreme cases, personal injury and even death. Thus, in terms of the pressures placed on the environment, the effects of such incidents differ considerably from escapes resulting from routine operations. In these circumstances there is a need for a mechanism which is capable of securing the clean-up of the contamination and reducing the chances of such incidents occurring in future.

This gap in the EC's environmental strategy was highlighted during the 1970s and 80s by a number of highly publicized disasters involving the release of extremely harmful agents. For example, in 1976 in Seveso, Italy, there was an extremely large scale release of one of the most hazardous toxins, tetrachlorodibenzo-p-dioxin (TCDD) from the ICMESA plant. During the production of trichlorophenol, an uncontrollable exothermic[27] reaction occurred which forced open a safety valve thereby allowing the escape of the toxin which then formed a vapour cloud. This was borne by a light wind and settled over 1800 ha of densely populated land to the South East of the plant. Many people suffered skin damage in the form of dermal lesions known as chloracne as a result of exposure to the toxin. Plants and crops were damaged and 77,000 livestock had to be slaughtered. In order to monitor the long term effects of the accident a health monitoring programme was introduced which was not concluded until as recently as 1996[28].

3.2 Chronology of Developments on Civil Liability

The immediate response to these disasters focused on improving plant safety and emergency procedures. To this end Council Directive 82/501/EEC (the 'Seveso' Directive)[29] was passed which obliges operators of plants, engaged in specified

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26 For example, the Drinking Water Directive 80/778/EEC (OJ No. L 229/11) sets a maximum concentration level for nitrates of 50 mg/l and a guide value of 25 mg/l.
27 A chemical reaction which releases heat into the surroundings.
28 For an overview of Seveso and other accidents causing serious pollution problems in Europe, see report of the European Environment Agency (edited by P. Stanners and P. Bordeau), *Europe's Environment: The Dobris Assessment*, Office for Official Publications: Luxembourg.
29 OJ No. L 230/1.

hazardous production processes, to take 'all measures necessary' to prevent major accidents and limit their consequences. In short the Directive requires the implementation of schemes designed to ensure that operators identify major accident hazards, adopt all necessary safety procedures and provide appropriate training and information for persons present on site. In the case of certain specified high risk activities, the Directive requires the establishment of a complex notification procedure which must make the 'competent authority' aware of the exact nature of the activities being carried out, the technical processes involved and the safety procedures followed so that emergency contingency plans can be drawn up.

3.2.1 5th Environmental Action Programme

Whilst it was hoped that the above approach would reduce the risk of major disasters occurring, it was recognized that it only provided a partial response to the problem. This is because the Directive does not address the issue of apportionment of liability following an accidental escape and the compensation of victims. Thus, following the Sandoz incident in 1986, the Council called upon the Commission to review all existing measures relating to the prevention and remediation of environmental damage and asserted that new measures should be considered which would ensure "prompt clean-up and restoration, coupled with equitable arrangements for liability and compensation by the polluters for any damage caused."[30]

These statements focused attention on the possible use of civil liability as a component of the EC's environmental strategy. Such an approach has now been formally recognized as a result of the 5th Environmental Action Programme[31] which provides:

> "...an integrated Community approach to environmental liability will be established...making sure that, if damage to the environment does occur, it is properly remedied through restoration. Liability will be an essential tool of last resort to punish despoliation of the environment. In addition - and in line with the objective of prevention at source - it will provide a very clear economic incentive for management and control of risk, pollution and waste."

3.2.2 Proposals on Civil Liability for Damage Caused by Waste

The Commission commenced by developing a sector specific response starting with waste. In 1989 a formal proposal on Civil Liability for Damage caused by Waste was

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30 [1986] E.C. Bull. 11, pt 2.1.146.
31 OJ No. C 138 of 17 May 1993 (due to run until the year 2000).

published in the form of a draft Directive[32] which concentrated on the establishment of a strict liability regime. Following consultation with Parliament[33] a new more far-reaching proposal was published in 1991[34]. This also included proposals for the establishment of clean up funds and increased standing for non governmental organisations (NGOs) such as environmental pressure groups.

3.2.3 Commission Green Paper on Remedying Environmental Damage

The debate was widened following the publication of a Commission Green Paper in 1993[35] which contemplated the possibility of establishing a wider civil liability regime covering a broader range of activities. The paper was designed to stimulate debate on the subject and addresses all aspects of the issue including strict liability; the difficulty of establishing causation in environmental damage cases; whether normal civil remedies are adequate to compensate for environmental damage; and, whether adequate insurance cover could be provided for increased civil liability. In addition, it considers, in more detail than the waste proposals, means by which central clean up funds could be established for use in circumstances where civil liability cannot be established. Following the publication of the Green Paper a joint public hearing on the subject was held by the European Parliament and the Commission at which interested parties, including industry and environmental organizations, had the opportunity to put their points of view[36]. Shortly after the hearing the Parliament exercised its powers under Article 138(b)(2) (now Article 192(2)) of the Treaty of Rome to call upon the Commission to submit a proposal for a Directive on civil liability in respect of environmental damage[37].

The Commission then instigated two independent detailed reports on the subject including a comparative analysis of civil liability for environmental damage in each Member State[38] plus the United States, Iceland, Norway and Switzerland and an

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[32] Commission Proposal for a Council Directive on Civil Liability for Damage Caused by Waste, 1989 OJ (C 251) 3 [hereinafter referred to as the 1989 Proposal].

[33] In accordance with the 'consultation' procedure which was, at that time, applicable for legislation based upon Article 100a. Parliament submitted its findings in Parliament Resolution on the Commission Proposal for a Council Directive on Civil Liability for Damage Caused by Waste, 1990 OJ (C 324) 248.

[34] Amended Commission Proposal for a Council Directive on Civil Liability for Damage Caused by Waste, 1991, OJ (C 192) [hereinafter referred to as the Amended Proposal].

[35] Communication from the Commission to the Council and Parliament on Environmental Liability, COM(93)47 final.

[36] Joint Public Hearing of the European Parliament (Committee on the Environment, Public Health and Consumer Protection) and the Commission (Directorate-General XI Environment, Nuclear Safety and Civil Protection) on 'Preventing and Remedying Environmental Damage', Brussels, 3rd and 4th November 1993.

[37] OJEC (C 128) 165.

[38] McKenna & Co., *Study of Civil Liability Systems for Remedying Environmental Damage*, Contract B4/3040/94/00065/MAR/H1, June 1996. (Copies available from European Commission DG XI)

economic feasibility study[39]. The Green Paper does not specifically supersede the draft directive on waste[40], however, the programme does appear to be on hold whilst the debate generated by the Green Paper runs its course. However, it is entirely possible that the proposal on Waste would be shelved if a new all encompassing proposal on civil liability for environmental damage was published.[41]

3.2.4 The Council of Europe Convention on Civil Liability

It is also necessary to have regard to a Council of Europe initiative, namely, the Council of Europe Convention on Civil Liability for Damage resulting from Activities Dangerous to the Environment (the *Lugano* Convention)[42]. Although the Council of Europe is not part of the EU, the Convention is important in that the Community may decide to accede to the Convention as opposed to drafting its own proposal. Articles 174(4) and 300 (formerly 130r(4) and 228) of the Treaty of Rome make express provision for the signing of agreements with international organisations. The Environment Commissioner has, in the past, expressed support for this approach[43] due to the length of time it would take the Community to pass its own free standing Directive. In short, the Convention requires signatories to adopt strict liability regimes for environmental damage subject to certain defences and affords considerable standing to non governmental organisations to pursue claims. A novel feature of the Convention is that it covers genetically modified organisms (GMOs), this could present an obstacle to the signing of the Convention by the EU in that the EU has yet to determine its position regarding the status of GMOs.

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[39] ERM Economics, *Economic Aspects of Liability and Joint Compensation Systems for Remedying Environmental Damage*, Ref. 3066 March 1996. (Copies available from European Commission DGXI).

[40] When the first draft of the Green Paper was published in 1991 Dr. Karl von Kempis of the EC Commission stated at the European Liability Insurance Congress in Berlin that the Green Paper was not designed to replace the draft Waste Liability Directive and that it would "not contain detailed legislative proposals, but rather state the situation in the member countries and show the Commission's position in the discussion with the Council of Ministers and the Parliament." Reported in *World Insurance Report*, May 8, 1992, at 7, 8. See Goldberg, J.I.L., "An Uncertain Future: Retroactivity, Insurance, and the EC's Attempts at Environmental Liability Legislation", (1993) 33 *Virginia Journal of International Law* 685, at pp. 698-699.

[41] Ibid.

[42] The Council of Europe Convention on civil liability resulting from activities dangerous to the environment; agreed in March 1993 and opened for signature at Lugano, Switzerland on 21 June 1993. To date, the Convention has been signed by Cyprus, Finland, Greece, Iceland, Ireland, Italy, Liechtenstein, Luxembourg and the Netherlands. However, it will not come into force until it has been ratified by three states.

[43] According to Mr. Chris Clark, an official of the Environmental Directorate of the Commission, DGXI), addressing a seminar on environmental liability held by *Simmonds & Simmonds* on 27th September 1996. Reported in 'Bjerregaard poised for fresh move on environmental liability', *ENDS Report* 260 September 1996, p. 38.

3.2.5 Proposed White Paper

On the 29th January 1997 the Commission held an orientation debate to consider its future policy on the subject of environmental liability[44]. It was resolved that there was a need to respond to the Parliamentary Article 138(b)(2) (now 192(2)) resolution of April 1994[45] and that this should take the form of a White Paper setting out the various options and the issues raised. To this end the views of interested parties (such as industry, insurance companies and environmental interest groups) have been canvassed by the circulation of a working paper which identifies the key issues[46]. At the time of writing the White Paper has yet to be published, however, the working paper indicates the types of measures which the Commission is considering. For example, the working paper refers to the possibility of easing the burden of proof on causation and increasing standing for environmental pressure groups. This latter proposal represents a departure from the position adopted in the Green Paper where the need for more liberal standing requirements was firmly rejected. The reason for this about face shall become apparent in due course. The 1997 Paper also stresses the need to ensure that any regime is consistent with the principle of subsidiarity.

3.3 Reasons for EC Intervention

The principle of subsidiarity requires the EC to justify why intervention is necessary in areas of dual competence between the EC and the Member States. To this end the EC must demonstrate that the area in which it wishes to act falls within the overall objectives of the EC and that action at a Member State level would not be sufficient to meet those objectives[47]. A corollary of subsidiarity is the proportionality principle which provides that, once the EC has established that it enjoys competence in a matter, it must only act to the extent necessary to attain its objectives[48]. As a result it is

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[44] According to a fax received from the Legal Affairs Directorate of European Commission DGXI (XI.B.3), Brussels, 2 June 1998.

[45] Mr. Clark of DGXI of the Commission stated that failure to respond to the resolution "may" have legal consequences; see note 43 above. Not surprisingly the Commission and the Parliament disagree on the effect of Article 192(2) (formerly 138b(2)). The Parliament considers that this right to request the Commission to generate proposals represents a sharing of the Commission's right of initiative; see Rules of Procedure, Rule 36B, entitled "Legislative initiative." However, the Commission is of the opinion that the Treaty confers sole legal and political responsibility for any proposals submitted on the Commission, irrespective of whether they were drawn up at the request of another body; see answer to written question No. 3471/92: [1993] O.J. C292/22.

[46] Commission of the European Communities (DGXI), *Working Paper on Environmental Liability*, Brussels, 17 November 1997.

[47] Article 5 (formerly 3b EC): "In areas which do not fall within its exclusive competence, the Community shall take action, in accordance with the principle of Subsidiarity, only if and so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States and can therefore, by reason of the scale or effects of the proposed action be better achieved by the Community."

[48] Ibid., "Any action by the Community shall not go beyond what is necessary to achieve the objectives

necessary to consider the justifications for EC intervention in the area of civil liability for environmental damage.

3.3.1 The Polluter Pays and the Precautionary Principles

Civil liability is consistent with two of the most important principles which underpin the EC's environment policy, namely, the polluter pays and the precautionary principles. As has been explained above, the Single European Act provided a legislative platform for environmental measures by the introduction of Articles 130r, s and t. It will be recalled that Article 174(1) (formerly 130r(1)) sets out the objectives of Community Environmental policy and that Article 174(2) (formerly 130r(2)) sets out the principles by which the Community should seek to attain these objectives. It will also be recalled that two key principles concern the idea that the polluter should pay and that pollution should be prevented from occurring in the first place. Various statements have been made to the effect that a rigorous civil liability regime would encapsulate both these principles. This is because liability would force operators to bear the costs of any damage which they cause in line with the polluter pays principle. Furthermore, the risk of incurring such liability would persuade operators to take sufficient steps to prevent future incidents in line with the preventative principle. Thus, the Fifth Action Programme[49] justifies Community intervention in this field on the basis that:

> "Liability will be an essential tool of last resort to punish despoliation of the environment [by requiring the polluter to pay for any damage caused]. In addition - and in line with the objective of prevention at source - it will provide a very clear economic incentive for management and control of risk, pollution and waste."

The Commission Green Paper reiterated this justification as follows:

> "A Community wide system of civil liability for environmental damage would draw on a basic and universal principle of civil law, the concept that a person should rectify damage that he causes. This legal principle is strongly related to two principles forming the basis of Community environmental policy since the adoption of the Single Act, the principle of prevention and the "polluter pays" principle...
>
> ...the "polluter pays" principle is evoked, because civil liability is a means for making parties causing pollution to pay for damage that results. The prevention principle is involved in that potential polluters

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of this Treaty."
[49] OJ No. C 138 of 17 May 1993.

> who know they will be liable for the costs of remedying the damage they cause have a strong incentive to avoid causing such damage."[50]

Placing costs on the polluter in this way satisfies the distributional requirements of the Community's economic policy. In order to understand why this is so it is necessary to refer to the aims of the "polluter pays principle" which accompanied the concept when it was unveiled in the First Action Programme[51]. Here it was stated that one of the main objectives of the concept was to "cause no significant distortion to international trade and investment."[52] As McIntyre explains[53], placing costs on the producer means that they are eventually passed to the consumer to the exclusion of the state thereby avoiding indirect state subsidy of industry which is, of course, anti-competitive. Hence, environmental costs are much like any other costs (or externalities to use economic terminology) which should be met by the operation of market forces. According to this model, in order to avoid passing costs on to the consumer thereby harming their market share, operators have to reduce costs by reducing damage caused to the environment.

3.3.2 Private Enforcement of EC Environment Policy

It will be recalled that the bulk of EC environmental legislation consists of Directives which seek to reduce the levels of certain contaminants released into the environment. To this end limits are set for acceptable levels of specified substances in, for example, water. However, the EC has experienced considerable difficulties in enforcing these standards due to limited enforcement powers and resources. This is resulting in a great deal of under enforcement of environmental standards, a problem which has caused the Court of Auditors a great deal of concern:

> "The Directives leave the Commission very little scope for action with regard to the difficulties faced by the Member States in applying them. About a hundred cases have been referred to the Court of Justice of the Communities, which, in numerous judgments, has declared that the Member States concerned, by not supplying the information requested or by not taking the necessary steps to implement the Directives within the relevant deadlines, have failed to fulfil their Treaty obligations."[54]

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[50] COM(93) 47 final, p. 5 at 1.0.
[51] OJ No. C 112 of 20 December 1973.
[52] Ibid, Part I, Title II, No. 5.
[53] McIntyre, O, "European Community Proposals on Civil Liability for Environmental Damage - Issues and Implications", [1995] *Environmental Liability* 29 at pp. 30-31.
[54] Court of Auditors Special Report No. 3/92, concerning the environment, O.J. 1992 C 245/1, p.19 at 4.10.

The Court of Auditors has also made the point that, despite the proliferation of environmental Directives, implementation continues to be an exceedingly slow process due to their technical nature. For example, as regards Council Directive 76/464/EEC on the discharge of certain substances into the aquatic environment, by 1991 limits had only been established in respect of 17 out of 130 substances originally identified by the Commission as having maximum priority[55].

Responsibility for enforcing EC law falls upon the Commission and the European Court of Justice whose powers are set out in Articles 226 and 228 (formerly 169 and 171) EC. Despite attempts to expedite them under the Treaty on European Union (Maastricht Treaty) the procedures are slow and cumbersome and the sanctions which may be imposed against the Member State are limited[56]. Even if the problems associated with the Article 226 and 228 enforcement procedures could be overcome, it would still be impractical to expect the institutions of the EC to assume sole responsibility for the enforcement of environmental policy; the backlog of cases awaiting action is considerable. The Commission and the Court of Justice are not omnipotent and cannot possibly discover and act upon more than a small percentage of breaches of environmental standards. In its Report, *Implementing Community Environmental Law*, the Commission states:

> "Many environmental regulations and directives have to be applied on a daily basis by large numbers of people throughout the Member States. It would be neither possible nor practical for all the legal actions which could arise from these cases to be channelled through one enforcing authority, the Commission, and one court of law, the Court of Justice. In addition, Article 169 creates a Community 'enforcement mechanism' which is directed against the central governments of the Member States: the Commission is unable to oversee, on the ground, the application of individual decisions (either voluntary or binding) necessary to comply with Community legislation."[57]

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[55] Ibid.

[56] Where a Member State has failed to fulfil its Treaty obligations by failing to implement a directive or to transpose it correctly, Article 226 (formerly 169) affords the Commission the power to bring the matter before the European Court of Justice. However, as the Commission does not have any investigative powers as regards compliance with environmental policy, it is reliant upon the Member State concerned to supply it with relevant information for the purpose of formulating its case; this information is requested by means of a letter of formal notice. Once all the facts have been gathered the Commission delivers a reasoned opinion which sets out in detail why the Commission considers that the state has failed in its duties and what steps are needed to remedy the situation. If the State refuses to comply with the findings of the Commission, the matter may be brought before the ECJ which ultimately has the power to impose a lump sum or penalty fine pursuant to Article 228(2) (formerly 171(2)) (implemented by the Maastricht Treaty). However, the Commission may have difficulty in making out its case if the Member State refuses to co-operate at the information gathering stage of the proceedings.

[57] Communication from the Commission, COM(96) 500 final, Brussels, 22.10.1996, at p. 5, para. 13.

The Report concludes that the way forward is to increase access to justice for individuals and non-governmental organizations (NGOs). This would have the effect of "channelling litigation on the enforcement of Community environmental law"[58] to the most appropriate level in that those most directly affected by environmental degradation 'on the ground' would be in a position to rely upon EC environmental standards before the national courts. The advantages of this approach are clear; as stated in the previous chapter, the reach of enforcement agencies can be restricted by limited resources. Thus they must be selective in terms of choosing which cases to pursue. However, a polluting incident, which is of no interest to an authority, may nevertheless be of great concern to an individual or NGO with a specialized interest in the matter. By allowing such persons to enforce EC standards against, for example, relatively minor polluters, EC environmental policy would be able to penetrate everyday activities to a far greater depth than is currently possible. As the Commission Report on enforcing EC environmental law states:

> "Better access to courts for non-governmental organisations and individuals would have a number of helpful effects in relation to the implementation of Community environmental law. First, it will make it more likely that, where necessary, individual cases concerning problems of implementation of Community law are resolved in accordance with the requirements of Community law. Second, and probably more important, it will have a general effect of improving practical application and enforcement of Community environmental law, since potentially liable actors will tend to comply with its requirements in order to avoid the greater likelihood of litigation."[59]

However, the Report does not set out the basis upon which an individual or NGO would be able to establish a sufficient interest to intervene in an environmental matter. One possible solution would be to confer 'environmental rights' on private citizens which they could rely upon before the courts in civil actions against polluters. In *Commission of the European Communities* v. *Federal Republic of Germany*[60], concerning whether Germany had properly transposed certain Directives on sulphur dioxide emissions, the Advocate General stated that the Directives were intended to give "individuals, ordinary citizens...the rights that the air which they breath should comply with the quality standards which have been laid down."[61] This raises the issue of how such a right could be concretized and enforced. The Treaty of Amsterdam

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58 Ibid., at p. 12 para. 41.
59 Ibid., at p. 12 para. 40.
60 Joint Cases C-361/88, [1991] ECR 1-2567 and C-59/89, [1991] ECR 1-2607.
61 [1991] ECR 1-2567, at 2591.

offered the opportunity to formally recognize environmental rights[62]. However, despite support from the Environment Commissioner[63], the idea was not included on the 1996 IGC Agenda.[64]

The decision in *Francovich*[65] provides a possible, albeit very limited, means for an individual to seek compensation against the state in respect of a violation of his 'environmental rights'. The decision established a principle whereby an individual who has suffered loss, as a result of a state's failure to properly transpose a Directive, may obtain compensation against the state. Thus, the remedy is particularly useful in circumstances where it is not possible for an individual to rely upon direct[66] or indirect[67] effect. However, liability is subject to certain conditions which have been refined by subsequent cases[68]. In short, there must be a sufficiently serious breach of the duties placed on the state[69]; the directive must confer rights for the benefit of individuals; and there must be a direct causal link between the breach of the obligation and the loss suffered by the individual. As the decision in *Commission* v. *Germany*, above, demonstrates, it seems that environmental directives may be capable of conferring rights on individuals which could be enforced under *Francovich*.

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62 See *Greening the Treaty II*, loc. cit. This proposed a new Article 8d stating: "Every citizen of the Union shall have the right to a clean and healthy environment, access to the decision-making process, information, and justice as part of a general right to human development."

63 In a speech delivered to the Environment Bureau on 1 December 1995, the Commissioner stated: "In order to strengthen the democratic dimension of the Treaty, to bring it closer to the citizen and to develop new kinds of rights for citizens of the Union, we could consider the inclusion in the Treaty of a new right to a clean and healthy environment, a right of access to transparent decision making, to information and to justice in relation to the environment." See Poostchi (1997), op. cit., at pp. 82-83.

64 Ibid.

65 *Francovich* v. *Italian Republic*, Cases C-6/90 and 9/90, [1993] 2 CMLR 66.

66 The doctrine of direct effect enables private persons to rely directly upon principles of EC law, before national courts, provided that the provision in question is sufficiently clear and unambiguous; see *Van Gend en Loos* v. *Netherlands* [1963] ECR 1. Whereas those Treaty Articles and regulations, which have been held to have direct effect, can be enforced both against the state (vertical direct effect) and other private persons (horizontal direct effect), directives can only be enforced against the state (or emanation of the state); see Case 152/84 *Marshall* v. *Southampton and South West Hampshire Area Health Authority* [1986] ECR 723.

67 The principle of indirect effect, developed by the jurisprudence of the ECJ, imposes a duty on national courts to interpret, "in so far as is possible" national legislation in a manner which conforms with relevant directives; see Case 106/89 *Marleasing SA* v. *La Commercial Internaconal de Alimentacion SA* [1992] ECR 1-4135.

68 Principally joined Cases 46, 48/93 *Brasserie de Pecheur* v. Germany, and *R.* v. *Secretary of State for Transport, ex parte Factortame* [1996] ECR 1-1029. This brought the conditions for establishing state liability into line with the tests already in place for establishing the non-contractual liability of the Community under Article 288 (formerly 215).

69 Ibid., at para. 56. This entails taking into account factors such as, for example, whether the Community provision was ambiguous and whether the breach was unintentional.

However, the scope of *Francovich* as a means of protecting 'environmental rights' is seriously restricted by certain limitations. Of particular note is the fact that it must be possible to identify direct personal loss. Thus an individual could only seek compensation under *Francovich* in respect of breaches of those directives which confer personal rights on individuals[70]. This would preclude those directives which are designed to protect the environment for its own sake such as the Directives on the conservation of wild flora and fauna[71] and wild birds[72]. It seems unlikely that the ECJ would be willing to afford standing to NGOs to pursue actions on behalf of the environment[73]. In addition, the test of causation applied appears to be a rigorous one which does not allow room for the application of the precautionary principle. Furthermore the remedy of injunctive relief is unavailable; as argued in the previous chapter, this is the most effective remedy in an environmental context. The most basic limitation is that, so far at least, the rule does not establish horizontal liability[74]; this may preclude actions against the polluters themselves who are often private enterprises[75].

Thus, in order to make full use of civil liability as a means of enforcing environmental rights, it would be necessary to establish a specialist liability regime for environmental damage. There is increasing evidence to suggest that the EC views civil liability as an indirect means of enforcing its environmental standards against individual polluters. It is possible to gain this inference from the Fifth Action Programme, referred to above, which states that "liability will be an essential tool of last resort..." Furthermore,

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[70] Somsen has identified three classes of directives which could confer such personal rights: 1. Those directives which provide for public participation, e.g. Directive 85/337 on environmental impact assessment (OJ 1985 No. L 175): 2. Directives which are concerned with the protection of human health, e.g. Directive 80/779 on air quality limit values and guide values for sulphur dioxide emissions and suspended particulates; Directive 75/440 on the quality of surface water intended for the abstraction of drinking water (OJ 1975 No. L. 194); Directive 90/219 on the contained use of genetically modified micro-organisms (OJ 1990 No. L 117; Directive 90/220 on the deliberate release of genetically modified organisms (OJ 1990 No. L 117): 3. Directives designed to harmonize technical standards pursuant to the establishment of the internal market, e.g. Directive 70/220 on emissions from motor vehicles (OJ 1970 No. L 76); Directive 67/548 on the classification, packaging and labelling of dangerous substances. Breaches of such standards could lead to personal loss. See Somsen, H. (1996), "*Francovich* and its Application to EC Environmental Law". In H. Somsen (ed.), *Protecting the European Environment: Enforcing EC Environmental Law*. Blackstone, at pp. 146-147.

[71] Directive 92/43 on the conservation of natural habitats and of wild fauna and flora (OJ No. L 78/38 of 26.03.1991).

[72] Directive 79/409 on the protection of wild birds (OJ No. L 103/1 of 25.04. 1979).

[73] See comments by Advocate General Van Gerven in Case 131/88 *Commission* v. *Germany* (1991) ECR 1-825, at p. 850.

[74] Advocate Generral Van Gerven has in fact mused on the possibility of a horizontal application of *Francovich* in Case 128/92 *Banks* v. *British Coal* [1994] ECR 1-1209.

[75] It should be noted that many of the privatized utilities may fall within the definition of 'organ of the state' following the judgment in Case 188/89 *Foster* v. *British Gas* [1990] ECR 1-3313.

McIntyre argues that the Green Paper[76] suggests that the definition of damage, for the purposes of triggering liability, could be linked to environmental standards set by the EC's existing environmental legislation:

> "The Green Paper suggests that, in deciding whether an environmental impact is sufficiently significant to warrant restoration, existing EC legislation setting quality requirements for various aspects of the environment would provide a useful starting point or baseline."[77]

It is possible to base this view on the fact that the Paper refers to the need for society to set quality standards for the purposes of determining the standards to which damaged property should be restored[78]. More recent support for this assertion is provided by a speech given by the Environment Commissioner to the Belgian Environmental Law Association in Brussels on 13th June 1996. In it she stated that:

> "A liability scheme is likely to improve the implementation of environmental rules in general. I see as a sort of common sense objective the linking of liability rules as effectively as possible to the rest of EC environmental law and policy, so that it supports that body of legislation and helps its proper enforcement."[79]

The 1997 Working Paper reiterates this objective:

> "The implementation of existing and future Community Environmental legislation will be strengthened by the liability regime, since liability will work as an additional sanction for infractions, thus ensuring stronger compliance incentives. Therefore the liability regime has to be designed in such a way that it is coherent with such legislation."[80]

This could be achieved by linking the definition of environmental damage to environmental standards; thus, a person would have a cause of action against a polluter where his property was contaminated by levels of substances which exceeded the relevant EC standard. As a result it would be possible to recover damages for environmental impairment:

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[76] COM(93) 47 final, p.
[77] Op cit. at p. 32.
[78] See ch. 6, below.
[79] SPEECH/96/158, 'Speech by Mrs Ritt Bjerregaard Member of the European Commission on Environmental Liability at the Meeting of the Belgian Environmental Law Association', Brussels, 13 June 1996.
[80] Op. cit., at p. 1.

> "For instance, as far as natural resource damage is concerned, it could be foreseen to initially only cover natural resources which are already protected under Community Law (e.g. wild birds and habitats). Later on this might be extended to other natural resources, such as areas protected under the future Water Framework Directive."[81]

This approach also overcomes the difficulties of arriving at a satisfactory definition of nebulous concepts such as environmental impairment, ecological damage or natural resource damage. It is unlikely that the courts would be able to arrive at a satisfactory definition due to their limited expertise; EC standards are set following extensive scientific research.

The case of *Cambridge Water* v. *Eastern Counties Leather*[82] provides a useful case study of how civil liability could be used to enforce EC environmental standards in the manner described above. As Tromans[83] has noted, Cambridge Water would not have suffered loss but for the imposition of the EC limit on acceptable levels of PCE in drinking water. The substance had not previously been monitored for and there was no evidence that water abstracted at Sawston Mill constituted a threat to public health. In the High Court decision Kennedy J. stated:

> "There is no evidence in this case that the concentrations of organochlorines in the water taken from Sawston Mill is injurious to health, and I have no doubt that there is an immense margin of safety in the prescribed figures. For all that, Sawston Mill water is now, by reason of the Directive and Regulations and with effect from July 1985, unfit to be supplied for use for one of its primary purposes, human consumption. To my mind it is unimportant that such standards might be thought to be arbitrarily set, or to be variable. It is common place that acceptable standards in many fields vary over the years as scientific knowledge enlarges. Sawston Mill water is by today's standards unfit for the purpose for which the plaintiff's wish to use it."[84]

This passage also demonstrates how the EC would be able to accommodate the precautionary principle into the definition of environmental damage for the purposes of civil liability.

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[81] Ibid.
[82] [1994] 2 A.C. 264.
[83] Tromans, S. (1996), "EC Environmental Law and the Practising Lawyer", in H. Somsen (ed.), *Protecting the European Environment: Enforcing EC Environmental Law*, Blackstone, at p. 271.
[84] *Cambridge Water* v. *Eastern Counties Leather plc* [1992] 1 JEL 81 at p. 90.

By creating a role for civil liability in the enforcement of its overall environmental policy objectives the EC would be able to justify intervention in the field of civil liability for environmental damage. Furthermore, the use of civil liability to enforce environmental standards represents a form of de-centralized control; as the Öko Institute has suggested, the principle of subsidiarity demands the application of de-centralized regulatory techniques:

> "...the principle of subsidiarity, as laid down in Art. 130r(4) of the EEC Treaty[85], and not least the widespread (and understandable) distrust of 'big government' among the public of the Member States speak against any large scale extension of administrative powers at Community level. The preferable solution to the problem therefore is to promote a de-centralized control of the implementation of environmental law. This is precisely what can be achieved by improving the access to national courts and complaints facilities for citizens and organizations who act in the interest of environmental protection."[86]

Thus, by extending the concept of damage to encompass environmental impairment defined by reference to EC standards and increased standing for environmental interest groups[87], the EC is clearly of the opinion that civil liability can be harnessed in pursuit of its environmental objectives.

3.3.3 Internal Market Considerations

Another possible basis for Community intervention in environmental matters is, as we have seen above, based upon the need to harmonize regulations in key areas in order to establish the internal market under Article 14 (formerly 7a) of the Treaty of Rome. Failure to do so may place producers in Member States with lax regulations at a competitive advantage in respect of rival producers in Member States with more rigorous controls. Furthermore, such disparities may encourage producers to 'forum shop' by selecting the country with the most lenient environmental laws. As will be seen in the next Chapter, Member states have already been pursuing their own initiatives on civil liability for environmental damage. Thus intervention in this area could be justified on the basis of Article 95 (formerly 100a) which, as we have seen, provides that:

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[85] It will be recalled that this provision has been superseded by Article 5 (formerly 3b), inserted by the Maastricht Treaty, which has adopted subsidiarity as a general principle of EC law.
[86] Öko Institute Final Report on Access to Justice, "Legal Standing for Environmental Associations in the European Community", (1994) 3(4) *Review of European Community and International Environmental Law* 261.
[87] See below.

> "The Council shall...adopt...measures for the approximation of the provisions laid down by law, regulation or administrative action in Member States which have as their object the establishing and functioning of the internal market."

The proposed directives on civil liability for damage caused by waste were based on Article 100a (now 95) on the grounds that:

> "[D]isparities among laws of the Member States concerning the liability for damage and injury to the environment caused by waste could lead to artificial patterns of investment and waste;...such a situation would distort competition, affect the free movement of goods within the internal market and entail differences in the level of protection of health, property and the environment;...an approximation of the laws of the Member States on this subject is therefore needed."[88]

This led to considerable criticism, particularly from the Economic and Social Committee[89], on the grounds that the main objectives of the draft directives were concerned with environmental protection.

Nevertheless, the Green Paper appeared to suggest that internal market considerations alone would be enough to justify intervention and stated that, "Variances in the use of civil liability for environmental damage among the Member States...could lead to distortions of competition."[90] However, this claim has met with considerable scepticism. For example, Turrall-Clarke states "There is no available empirical evidence that markets would be distorted if Member States continued with their present civil liability regimes."[91] In its written representations to the 1993 European Parliament and Commission Joint Public Hearing on 'Preventing and Remedying Environmental Damage'[92] the Union of Industrial and Employer's Confederations of Europe (UNICE) displayed similar reservations,

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[88] OJ No C 192/6.
[89] Economic and Social Committee, *Opinion on the Proposal for a Council Directive on Civil Liability for Damage Caused by Waste*, 1990 O.J. (C 112) 23, at 2.2, "The Commission bases the draft Directive on Article 100A. In view of the objectives set out by the Commission, however, reference to Article 100A is not justified. Reference should be made in the text, as currently drafted, to Articles 130R and S of the Treaty. The Committee calls upon the Commission to revise its line of approach in order to bring it into accordance with the legal basis selected."
[90] COM(93) 47 final, p. 5 at 1.0.
[91] Turrall-Clarke, R., *Civil Liability for Environmental Damage in Europe*, Cambridge Academic Publications 1993, at p. 12.
[92] Above.

"The Green Paper states that different systems of civil liability could lead to distortions of competition but it does not contain any evidence for this assertion...

...UNICE is of the opinion that harmonisation of legislation should only be envisaged if victims are in practice protected in a completely unequal manner in different Member States and if these divergences between legislation create a sufficiently large distortion of competition."[93]

The Commission took note of this request for empirical data on the likely effects of allowing differing standards of environmental liability to develop. Accordingly, it requested ERM Economics to address the issue in its report to the Commission on the economic aspects of liability for environmental damage.[94] ERM chose to use a trade model developed by Professor Tony Venables and Professor Alistair Ulph of the University of Southampton. The model uses recorded data[95] to estimate effects on market share and plant location decisions brought about by alterations in operating costs. Thus ERM sought to use the model to ascertain the possible effects on the competitiveness of industry caused by differing operating costs resulting from divergent environmental liability regimes.

The results of the simulation were inconclusive and demonstrated that conditions in the global market had more effect on market share than intra-Community considerations. Nevertheless, the report noted that the alterations in market share predicted by the study were more pronounced than those forecast by other studies:

> "However, the changes in market shares arising from the costs of environmental liability systems in these simulations are much greater than in other studies of the impacts of environmental costs on competitiveness. These have generally found little direct evidence that the stringency of environmental regulations has had significant effects on plant location and choice and on industries' international competitiveness."[96]

However, as stated above, there is increasing evidence to suggest that the Commission considers that civil liability has the potential to form an integral component of the

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[93] UNICE, *Position paper on the fundamental options in the Green Paper on remedying environmental damage [COM(93) 47 final]*.
[94] Op. cit.
[95] Published data on trade, production and input-output relationships for the chemicals industry for all countries in the World for 1985 - the most recent date for which consistent data were available at that time.
[96] Op cit., at 3.3.2, p. 63.

EC's environmental policy. This shows that, since the publication of the draft directives on waste, the 'centre of gravity' of EC policy, in the field of civil liability, is shifting towards environmental rather than market considerations. Thus it now seems certain that any future legislation would be passed on the basis of Article 175 (formerly 130s) as opposed to Article 95 (formerly 100a). Indeed, the 1997 Working Paper states unequivocally that any future legislation would be passed on the basis of Article 130s (now 175), no mention is made of Article 100a (now 95) as a possible basis. This approach is certainly correct, the theoretical possibility that the development of divergent liability regimes could lead to some distortion of competition would not, according to the latest jurisprudence of the ECJ, justify legislation in this field on the basis of the new Article 95.

4. CONCLUSIONS

It is only in recent years that a clear rationale for EC intervention in the field of civil liability for environmental damage has begun to emerge. The view that measures should be founded on internal market justifications has now largely been abandoned. It seems that any legislation in this field will almost certainly be based upon the Community's environment policy as set out in Title XIX EC.

EC initiatives in this area must be viewed in the context of wider developments in European Environmental Law. Although environmental rights were not formally recognized in the Treaty of Amsterdam, the belief that the way forward in environmental law is to increase public participation is gathering momentum. The principle of state liability, established by *Francovich*, provides a limited private enforcement mechanism in respect of those directives which may be capable of conferring private rights. However, a specialist civil liability regime would have the potential to afford full protection to those rights in the manner advocated by Gray[97] in the previous chapter.

The specific proposals generated by the various European initiatives must now be considered in the light of these issues.

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[97] Gray, K., "Equitable Property", (1994) *Current Legal Problems* 157.

Chapter 6

Increasing the Efficacy of Tort as a Means of Environmental Protection

1. INTRODUCTION

Having identified the possible reasons why the EC has been contemplating the introduction of an environmental liability regime and the objectives which such a regime would be intended to meet it is necessary to consider the specific proposals which have emerged. The purpose of this chapter is, therefore, to analyse these proposals in detail with a view to ascertaining whether they would secure the objectives of an effective civil liability regime; it will be recalled that these include deterrence, private enforcement of environmental standards, full internalization of costs and remediation of environmental damage.

It is also necessary to consider how these proposals accord with the philosophical perspectives discussed in chapter 4.

2. STRICT LIABILITY

2.1 General Issues

The empirical evidence regarding whether strict liability provides a superior incentive for risk management is inconclusive and sometimes contradictory. In fact there is some support for the argument that, in certain circumstances, fault based liability may provide a superior incentive for complying with regulatory standards than strict liability. Landes and Posner argue that this is because, where liability is fault based, the operator can avoid all liability by complying with a set standard. However, under a system of strict liability, compliance with the standard will not absolve the operator of liability, therefore, "the benefits to him of additional benefits in care are therefore smaller."[1] This appears to be supported by one empirical study in which it was found that the introduction of no-fault liability led to an increase in automobile accidents resulting from a drop in the level of care exercised by drivers.[2]

However, there are also major drawbacks associated with reliance upon fault as a trigger of liability. Compliance with regulatory standards is often of evidential importance in determining whether the defendant was at fault. This is not always sufficient to prevent accidents from occurring. In the case of *Cockerill Sambre S.A.* v.

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[1] Landes W.M., and Posner, R.A. (1987), *The Economic Structure of Tort Law*, Harvard University Press, at p. 259.

[2] See, for example, Devlin, R.A., "Some Welfare Implications of No-Fault Automobile Insurance Regimes", (1990) 10 *International Review of Law and Economics* 193.

Foundation Reinwater and others[3] , for example, although the defendants complied with the terms of a discharge consent, their coke factory polluted the Sambre and Meuse rivers with high levels of polycyclical aromatic hydrocarbons (PAHs). The levels of emissions did in fact exceed limits set by Directive 76/464/EEC on pollution caused by certain dangerous substances released into the aquatic environment. Nevertheless, this could not be taken into account as the Directive had not been implemented and, in any case, directives cannot have horizontal direct effect[4]. As a result the court treated compliance with the relevant domestic regulations as decisive[5] in determining whether *Cockerill* had exercised due care. This approach is inconsistent with the 'polluter pays' principle in that the polluter is not required to internalize all pollution costs; environmental costs which do not result from any fault on the part of the polluter are priced at zero.[6]

The major advantage of strict liability is that, given that compliance with a set standard of care will not absolve the operator of liability, he must investigate alternative means of reducing the risk of accidental escapes. To this end he must either reduce his activity levels[7] or invest in safer and cleaner technologies. The former option entails ceasing operations, reducing output, or moving the plant[8]. There is some empirical evidence available which suggests that the imposition of strict liability, in respect of polluting industries, has had this effect in North America[9]. However, in

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[3] Court of Appeal Den Bosch, May 31, 1994 Case No. KG229/93/MA. Published in [1995] *TMA/Environmental Liability Law Review.*

[4] An unimplemented directive cannot create rights as regards the bilateral relationship between two third parties to whom the directive was not addressed i.e. in these circumstances it does not have 'horizontal effect'. See *Marshall* v. *Southampton and South West Area Health Authority* [1986] E.C.R. 723.Uilhoorn argues that it may have been possible for the court to apply indirect effect, which requires national courts to interpret national law, *in so far as is possible*, in the light of Community norms. See Uilhoorn, "The Cockerill Case", [1995] *Environmental Liability* CS62

[5] Ibid., at CS63, "[The] position of the Court is untenable, particularly since the Supreme Court in 1919 abandoned the concept that 'illegal' means 'contrary to written law'. No support can be found in the applicable law that there must be a hard written standard in order to establish a negligence case for pollution."

[6] See Swanson, T.M. (1991), "Environmental Economics and Regulations", in O. Lomas (ed.), *Frontiers of Environmental Law*, Chancery, at p. 149, n. 41.

[7] See Shavell, S., "Strict Liability Versus Negligence", (1980) 9 *Journal of Legal Studies* 1.

[8] Landes and Posner, op. cit, at p. 111-112, argue that the courts have historically used strict liability to discourage certain activities. This reflects societal preferences, thus an activity which is more highly valued in the US than in the UK may be subject fault as opposed to strict liability. For example, in *Turner* v. *Big Lake Oil Co*, 128 Tex. 155, 165-66, 96 S.W. 2d 221, 226 (1936), the court stated that, in an arid region, the storage of water in reservoirs is a more important land use than in a damp country such as England. Thus, whereas in the UK the activity was subjected to a strict duty under *Rylands* v. *Fletcher*, in Texas the same activity would be subjected to a fault based duty of care.

[9] Dewees, D., "Sulphur Dioxide Emissions from Smelters: The Historical Inefficiency of Tort Law", University of Toronto, January 2nd, 1996: Dewees, D., and Halewood, M., "The Efficiency of the Law: Sulphur Dioxide Emissions in Sudbury", (1992) 42 *University of Toronto Law Journal* 1. These studies found that, following a spate of litigation at the turn of the century related to sulphur dioxide emissions, a

Europe, where populations are denser and land is more expensive, re-location may not be a realistic option; in any case, such an approach would not solve the problem, it would merely move it elsewhere. In such circumstances the polluters only option may be to implement new abatement technology.

Thus, strict liability clearly accords more closely with the polluter pays principle than fault in that it requires the polluter to internalize a greater proportion of the pollution costs. Of course, this will only be the case if it is backed by adequate sanctions which accurately reflect the costs of pollution or induce the operator to take preventative measures.[10]

2.2 Developments In Member States

Whilst the EC has been considering the need for a specialist environmental liability regime, a number of Member States, including Sweden[11], Germany[12], Finland[13], and Denmark[14] have already introduced their own schemes and Spain is in the process of enacting legislation[15].

A common feature of these schemes is the introduction of strict liability, however, the manner in which the principle is applied varies considerably. One difference occurs in the range of activities which are covered by the legislation. In Denmark and Germany strict liability is reserved for those activities which pose the greatest threat to the environment. In contrast, the schemes in operation in Sweden and Finland[16] are not limited to specified hazardous activities; the type of damage is the determining factor rather than nature of the activity which caused it. Thus, section 1 of the Swedish Environmental Protection Act (1969:387) provides that any use of land, buildings or

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number of copper and lead smelters in California and around Salt Lake City, re-located to less densely populated areas. A more recent study has examined the effects of strict liability under the US Outer Continental Shelf Lands Act (OCSLA) on the decisions of oil companies to bid for leases to exploit oil reserves on the outer continental shelf. It was found that, following the introduction of the Act, oil companies bid far less for the leases. This shows that the leases were regarded as far less attractive propositions with the result that they became less sought after. See Grigalunas and Opaluch, "Controlling Stochastic Pollution Events with Liability Rules: Some evidence from OCS leasing", (1984) 15 *Rand Journal of Economics*.

[10] Remedies are discussed in section 6, below.

[11] Environmental Protection Act (1969:387); Environmental Damage Act (1986:225).

[12] Environmental Liability Act 1991 (*UmweltHG*).

[13] Environmental Damage Compensation Act, 737/1994.

[14] Act on Compensation for Environmental Damage, 225/1994.

[15] For a review of the Draft Act see, Barrenetxea, J.M.G., "The Spanish Draft Act on Liability for Environmental Damage" [1997] *Environmental Liability* 115.

[16] See Wetterstein, P., "The Finnish Environmental Damage and Compensation Act - and some Comparisons with Norwegian and Swedish Law" [1995] *Environmental Liability* 41.

installations which either results in the discharge of tangible substances or causes a disturbance to the surrounding environment shall be deemed a hazardous activity for the purposes of the Act. This provision is extremely broad in scope in that it encompasses traditional nuisance type problems such as noise or vibration which may not necessarily result in any tangible damage to the environment. In one case, for example, smallholders succeeded in claiming compensation in respect of noise pollution caused by a new road which was judged to have adversely affected the market value of their properties[17]. The position in Finland is similar in that the Environmental Damage and Compensation Act 1994 is not limited to actual damage resulting from the most hazardous activities, it also covers lesser forms of environmental harm giving rise to nuisance types problems. Matters of this nature were formerly dealt with under the Neighbour Relations Act 26/20 which, under section 17, gives rise to strict liability for certain types of "enduring and unreasonable nuisance" affecting neighbours. Examples of activities found to be nuisances by the Supreme Court include noise caused by granite quarrying[18] and soot from a coke plant[19] which caused damage to the stock of a timber merchants. It seems that the courts also applied a test somewhat analogous to the character of the neighbourhood test which occurs in English law. In case 1936 II 87 noise and smell from a poultry house was held not to be unreasonable due to the rural setting of the premises. It remains to be seen whether the 1994 Act will be interpreted in respect of this type of dispute in a similar manner.

Another difference occurs in the range of defences available. In Germany Liability is only excluded on very limited grounds; the principal exclusion is for damage caused by *force majeure* (*höhere Gewalt*)[20]. Despite intensive lobbying from industry, a development risk defence[21] was not included with the result that an operator cannot escape liability on the grounds that the state of scientific knowledge at the time did not allow the defendant to appreciate the potential risk to the environment. In Finland and Sweden the standard of liability is even more rigorous in that no defences at all are provided; this would suggest that liability is absolute rather than strict[22]. The Spanish

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17 Supreme Court NJA 1977 s. 376.
18 Case 1982 II 109.
19 Case 1962 II 26.
20 ELA s. 4.
21 Such a defence is provided in s. 1(2) of the Products Liability Act (*Gesetz über die Haftung für fehlerhafte Produkte*).
22 The terms 'strict' and 'absolute' liability are often used interchangeably, however, liability should only referred to as absolute where no defences of any sort are available: see Rogers, W.V.H. (1989), *Winfield and Jolowicz on Tort*, (13th edn.), Sweet & Maxwell, at p. 424. A rare example of a statutory provision imposing absolute liability in tort occurs under section 14 of the Gas Act 1965.

Draft Act is, in contrast, more lenient in that it provides for defences on the basis of *force majeure*, necessity, and where the damage results from the malicious act of a third party.[23]

2.3 European Initiatives

European initiatives on civil liability for environmental damage also show that there is an assumption that strict liability is a prerequisite of an environmental liability regime.

2.3.1 The Lugano Convention

The Council of Europe Convention on Civil Liability requires signatories to introduce strict liability regimes in respect of 'dangerous activities' which includes the production, handling, storage, use, destruction, disposal of dangerous substances[24], genetically modified organisms[25], or hazardous micro-organisms[26]. The regime also applies to operators engaged in the operation of an installation or site for the incineration, treatment, handling or recycling of hazardous waste[27]. Such an approach is justified by the Convention in its preamble on the grounds that it takes into account the 'polluter pays' principle. To this end Article 6 provides that.

> "The operator in respect of a dangerous activity...shall be liable for the damage caused by the activity as a result of the incidents at the time or during the period when he was exercising control of that activity."

Furthermore, liability in respect of a continuing occurrence or a series of consecutive occurrences having a common origin is joint and several as between all those who

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23 Article 4.2 (draft Act); see Barrenetxea, op. cit., at p. 120.

24 Article 2(2)(a) provides that dangerous substances include those having properties which constitute a significant risk for man, the environment or property. This comprises substances which are explosive, oxidising, extremely flammable, toxic harmful, corrosive, irritant, sensitising, carcinogenic, mutagenic, toxic for reproduction or dangerous for the environment. Annex I Part A provides that these properties shall be determined by reference to the criteria and methods referred to in or annexed to, the Council Directive of the European Communities 67/548/EEC (OJEC No. L196/1) as amended by Council Directive 92/32/EEC (OJEC No. 154/1) and as adapted to technical progress by Council Directive 92/37/EEC (OJEC No. L154/30).

25 Article 2(3) defines Genetically Modified Organisms as any organism in which the genetic material has been altered in such a way which does not occur naturally be mating and/or natural recombination. It excludes from the scope of the Convention organisms obtained by mutagenesis provided that genetically modified organisms are not used as recipient organisms and plants obtained by cell fusion provided that the resulting plant can also be obtained through natural breeding methods and that genetically modified organisms are not used as parental organisms.

26 Article 2(1)(b). Includes, for example, micro organisms which are pathogenic or which produce toxins.

27 Article 2(1)(c) provides that such waste falls within the definition of a dangerous substance. Annex II of the Convention sets out the specific waste handling processes covered by the Convention.

have operated the site at the material times. However, where it is possible for an operator to identify the specific part of the damage which was attributable to the period in which he was in charge of the site, he will only be liable in respect of that part of the damage[28]. Where the damage is latent and only becomes known after the activity responsible for the damage at the site has ceased, the last operator is held liable unless he or the person who has suffered damage can show that the damage, in whole or in part, stemmed from an incident occurring prior to the time at which the last operator took over the site[29].

The Convention also contains a more extensive set of defences than the domestic civil liability regimes introduced by some of the Member States of the EC reviewed above. These are set out in Article 8 which provides that the operator shall not be held liable in respect of incidents resulting from acts of war, hostilities, civil war, insurrection or natural phenomena of "an exceptional, inevitable and irresistible character". Events of this nature equate with the *force majeure* defence which, as we have seen, has been included in the 1991 German Environmental Liability Act. In addition, Article 8 also exempts liability in respect of deliberate damage caused by a third party (provided that the operator had taken sufficient measures to guard against such incidents); compliance with a specific order or compulsory measure of a public authority; pollution which is at tolerable levels according to local circumstances; activities undertaken lawfully in the interests of the person who suffered the damage provided that the action was reasonable.

2.3.2 Draft Directives on Civil Liability for Damage Caused by Waste

The 1991 draft proposal[30] provides that producers of waste shall be strictly liable for environmental harm caused by such waste[31] and justifies this approach on the grounds that:

> "[W]hereas, in view of the risk inherent in the very existence of waste, the strict liability of the producer constitutes the best solution to the problem."

Producer is defined as any body,

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28 Article 6(2) and (3).
29 Article 6(4).
30 OJ No C 192/6.
31 Article 3: "The producer of waste shall be liable under civil law for the damage and impairment of the environment caused by the waste, irrespective of fault on his part."

> "Who in the course of a commercial or industrial activity, produces waste and/or anyone who carries out pre-processing, mixing or other operations resulting in a change in the nature or composition of this waste."[32]

In addition, importers of waste are also deemed to be producers[33] as are those who had actual control of the waste at the time the pollution occurred (unless they can identify the originator of the waste as defined in paragraph 1(a) of Article 2 within a reasonable period) and those responsible for any installation, establishment or undertaking at which the waste was held at the time the pollution occurred[34].

The only defence provided is that of *force majeure*[35], however, liability is far from absolute in that liability for historic pollution is expressly excluded by Article 13 which provides that the,

> "directive shall not apply to damage or injury to the environment arising from an incident which occurred before the date on which its provisions are implemented."

The amended 1991 Proposal has not altered the 1989 proposals as regards strict liability, this continues to be a central theme. In order to deal with pollution occurring after the introduction of any legislation which could remain undetected for some years, Article 10 provides a 30 year statutory limitation period during which time an action may be brought. Once environmental harm has been detected, Article 9(1) provides that the plaintiff must bring an action within three years of the time at which he first knew, or ought to have known, of the harm and the identity of the polluter.

In summary, it seems that the Waste proposals share common features with some of the initiatives already undertaken by certain Member States as described above. Common features include the fact that the standard is not weakened by a multitude of statutory defences, this is limited to *force majeure*. However, the scope of the proposal is limited in other ways, principally by the fact that there can be no liability in respect of pollution occurring prior to the introduction of the legislation. This precludes the possibility of retroactive liability for historic pollution.

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[32] Art. 2(1)(a).
[33] Art. 2(1) (a) (a).
[34] Art. 2(1) (a) (c). Installations, establishments or undertakings for the purposes of this provision are those licensed pursuant to Article 8 of Directive 75/442/EEC, Article 6 of Directive 75/439/EEC or Article 9of Directive 78/319/EEC or those approved pursuant to Article 6 of Directive 76/403/EEC.
[35] Art. 6.

2.3.3 Discussion Documents

Both the Green Paper on Remedying Environmental Damage and the latest working paper also refer to the need for strict liability. The Green Paper argues that strict liability accords more closely with the polluter pays principle in that it requires the operator to internalize a greater proportion of the pollution costs.[36] It also notes that it may be difficult for a plaintiff to establish fault where the operator complied with regulatory standards.[37] This problem is illustrated by the *Cockerill* case, discussed above.

2.4 Main Considerations

2.4.1 Scope of Strict Liability

A basic consideration concerns the issue of which activities should be subjected to a strict liability regime. As noted above, in Sweden strict liability is triggered by the type of damage, whereas, in Germany strict liability under the *UmweltHG* is imposed on specified industries.

The European Environmental Law Association argue that the drawback of linking strict liability to the type of damage is that it risks creating uncertainty as to whether a person is subject to the regime[38]. However, it is impossible to draft an exhaustive list of harmful activities or harmful substances. An otherwise harmless substance may cause serious pollution if deposited in large quantities in a river[39]. Thus, in drafting a list of activities the legislator would need to be aware of three broad classes of potentially liable persons. Namely those engaged in inherently hazardous activities; those who handle substances which are potentially harmful in large quantities; and those whose activities may be environmentally harmful in sensitive locations[40]. The 1996 Working Paper suggests that the Commission is in favour of such an approach:

> "[A]ctivities which are not normally considered to bear an inherent risk can also result in damage to protected natural resources, for instance

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[36] COM(47) final, a 4.1.2.
[37] Ibid., at 4.1.1.
[38] European Environmental Law Association (EELA), *Repairing Damage to the Environment - A Community System of Civil Liability* (Position paper submitted to the Commission of the European Communities) , p. 14, at para. 7.1.
[39] The EELA, above, use the example of an overturned milk tanker depositing its cargo in a river.
[40] There is a precedent for such an approach in Directive 85/377 on environmental impact assessment (OJ 1985 No. L 175/40). This distinguishes between schedule 1 projects, which are inherently hazardous, and schedule 2 projects which may be hazardous as a result of their nature size or location. A schedule 1 project would include an oil refinery whereas a schedule 2 project would include a major construction project such as the building of a bridge near a nature reserve.

> construction works. Therefore, these activities have to be covered as well, as far as protected natural resources are concerned."

2.4.2 Defences

Strict liability increases the distributional functions of tort, however, it is also consistent with the corrective functions of tort in that it allows for certain defences. This is where strict liability differs from absolute liability which serves as a purely distributional device. A difficult balance has to be struck between maximizing the proportion of the damages costs which must be met by the polluter whilst retaining incentives to take care. Thus it is appropriate to admit defences in respect of events which were entirely beyond the control of the polluter such as *force majeure*. In the UK most environmental regulations, which impose strict criminal liability, allow for defences in respect of natural phenomena (Act of God)[41] or third party intervention[42]. The issue of whether a 'development risk' defence should be included is rather more complex.

The problem with the development risk defence, which has been developed in the field of products liability, is that it relates to the manner in which the operator has managed his activities. Accordingly there is a risk that the defence may equate the standard of liability with negligence and undermine the distributional function of strict liability. This is because the development risk defence is based upon a 'risk-utility' analysis; such an approach is now frequently adopted in negligence for the purpose of determining whether the defendant has taken due care[43]. Nevertheless, Terry points out that there is a distinction inasmuch as negligence judges the conduct of the defendant whereas the development risk defence judges the product[44]. Thus, in US products liability cases, the courts have adopted objective tests for determining whether a producer should have been aware of a risk. Where knowledge of a defect exists, prior to the marketing of a product, the knowledge is imputed to the producer irrespective of whether he was in possession of the knowledge. In other words, there is a presumption that he ought to have been in possession of the knowledge. Compliance with regulatory standards and independent assessments of industry capability have

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[41] The defendant is, however, expected to take precautions against foreseeable natural phenomena such as heavy rain. See *Southern Water Authority* v. *Pegrum* [1989] Crim L.R. 442; *Alphacell* v. *Woodward* [1972] C.L.Y. 3549.

[42] See *Impress (Worcester) Ltd* v. *Rees* [1971] 2 All E.R. 357; *Welsh Water Authority* v. *Williams Motors (Cwmdu) Ltd*, The Times, 5 December 1988.

[43] English court have long since become accustomed to weighing the magnitude of the risk against the practicality of precautions. See, for example, *Latimer* v. *A.E.C.* [1953] A.C. 643.

[44] Terry, N.P., "State of the Art Evidence: From Logical Construct to Judicial Retrenchment", (1991) 20(3) *Anglo-American Law Review* 285.

been admitted as sufficiently objective tests to invoke the defence[45]. In contrast, evidence relating to industry practice and standards set by the industry itself is regarded with suspicion[46]. Tests based on industry custom are subjective and focus attention on the conduct of the producer rather than the safety of the product;[47] such evidence has, therefore, been dismissed by the US courts on a number of occasions[48].

In Europe, Directive 85/374/EEC[49] on product liability required Member States to introduce strict liability in respect of certain types of harm caused by defective products. This incorporated a development risk defence as follows:

> "The producer shall not be liable as a result of this Directive if he proves...that the state of scientific and technical knowledge at the time when he put the product into circulation was not such as to enable the existence of the defect to be discovered."[50]

This is a rigorous objective standard in that it suggests that the defence will be denied if the knowledge existed somewhere. There is no suggestion that the knowledge should have been discoverable from the point of view of the producer. In fact the implementing provision in English Law adopts a greater degree of subjectivity and refers to the fact that the defence will be available if the knowledge was "not such that a producer of products of the same description as the product in question might be expected to have discovered the defect."[51] This led the Commission to instigate Article 169 (now 226) proceedings against the UK on the grounds that the provision did not comply with the Directive. However, the ECJ has elected to 'wait and see' how the domestic courts interpret the provision[52].

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[45] Ibid., at p. 296.

[46] See *Lewis* v. *Coffing Hoist Div.*, Duff-Norton Co., 515 Pa. 334, 528 A.2d 590 (1987): "The injection of industry standards into a design defect case would be not only irrelevant and distracting, but also, because of the inherently self-serving nature of 'industry standards', would be highly prejudicial to the consumer/plaintiff. By our determination today, we have made it clear that a manufacturer cannot avoid liability to its consumers that it injures or maims through its defective designs by showing that 'the other guys do it too', per Larsen J., at p. 595.

[47] "Introducing evidence of industry and/or manufacturer's customs and practices shifts the jury's focus from what the consumer expects to what the manufacturers are doing. By focusing the jury's attention on the custom of the industry, implicitly the jury's attention is focused on the defendant's design choice and the reasonableness of that choice. In effect, such evidence incorporates negligence concepts and the seller orientated approach we [have] rejected." *Lenhardt* v. *Ford Motor Co.*, 102 Wash.2d 208, 683 P.2d 1097, 1098 (1984).

[48] Thus, in *Lewis* v. *Coffing Hoist Div*, above, the court was not prepared to find that the absence of basic safety features in a control panel for a hoist was excusable on the basis of the development risk defence merely because the practice in the industry was not to incorporate such safety features.

[49] OJ 1985 L 210/29.

[50] Ibid., Article 7(e).

[51] Consumer Protection Act 1987, s. 4(1)(e).

[52] See Case 300/95 *Commission* v. *UK* [1997] ECR I-2649. The ECJ was not prepared to find that the

Newdick argues that the English formulation is more realistic than the Commission's version of the defence[53]. This is because the mere fact that knowledge exists does not necessarily mean that it is available to a particular industry. Scientific results have to be interpreted and assessed before the implications become known. Furthermore, the relevance of knowledge in an unrelated field may not be appreciated. Thus, Newdick suggests that the defence should admit evidence of the discoverability of the defect from the perspective of the relevant industry. Such an approach would require the defendant to establish that he operated an adequate system for keeping up to date with the latest developments. Where products are hazardous this would be an onerous requirement.[54]

A development risk defence in an environmental liability regime could provide an incentive to constantly review procedures and investigate new technology. However, this would have to be balanced against the underlying requirements of the polluter pays and precautionary principles.

The version of the defence incorporated in the Consumer Protection Act 1987 is, as Newdick argues, supported by logic. However, the danger is that, in requiring the court to examine the matter from the perspective of the operator, the court may be encouraged to admit subjective evidence such as industry standards. As indicated above, in US products liability cases, the courts are suspicious of such evidence. A degree of objectivity could be retained by considering whether the knowledge of a defect was available to the industry as a whole as opposed to individual operators. This would entail an assessment of regulatory standards such as BATNEEC[55]; furthermore, information obtained by one operator should be imputed to others engaged in the same

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UK legislation constituted a prima facie breach of the Directive. Instead, it merely stated that there was no reason why the UK courts should not be able to interpret national law so as to comply with the Directive. Thus there is a possibility that a UK court may in future refer a case under Article 234 (formerly 177).

53 Newdick, C., "Risk, Uncertainty and 'Knowledge' in the Development Risk Defence", 20(3) *Anglo-American Law Review*" 309.

54 In fact, even in cases where liability is fault based, it is difficult for an operator in a hazardous industry to persuade the court that knowledge of a risk was 'undiscoverable'. See, for example, *Vacwell Engineering Co.* v. *BDH Chemicals Ltd.* [1971] 1 Q.B. 88, "...it was the duty of [the producer] to have established and maintained a system under which adequate investigation and research into established scientific literature took place in order to discover, inter alia, what hazards were known before a new, or little known, chemical was marketed. I am satisfied that this duty was never complied with."

55 In determining which technology should be employed UK regulators employ the 'Best Available Technology Not Entailing Excessive Cost' (BATNEEC) test; see s. 7(2)(a) Environmental Protection Act 1990. The concept is a more transparent version of the Best Practicable Means (BPM) approach first applied by the Alkali Acts and brings it into line with the test adopted by EC Framework Directive 84/360/EEC on combating air pollution from industrial plants, OJEC, L188, 16 July 1984, Art 4.1.

activity[56]. Thus, as the ECJ has found in respect of the Consumer Protection Act, the scope of the defence would very much depend upon how it was interpreted by national courts.

An additional consideration is that, in an environmental context, there would have to be a distinction between knowledge of harmful emissions and knowledge of a defect in process. The defence should only be available in respect of the former. The facts of *Graham and Graham* v. *Re-Chem International*[57], which concerned emissions from a toxic waste incinerator,[58] can be used to illustrate the significance of this distinction. Let us assume that there had been a strict liability regime in place and the issue of liability rested on a development risk defence. If the defence was only available in respect of knowledge of harmful emissions the defendant would have failed in this case. The judge stated that, at the material time, it was well known that the burning of PCBs could cause the emission of dioxins and furans.[59] As the defendant was engaged in a hazardous activity, he would have had difficulty in refuting the presumptions of knowledge under both the EC and UK versions of the defence. However, if the defence was also available in respect of defects in process the outcome could be different. The process by which the pollutants were produced was not known until after the incinerator had been closed. Therefore, Re-Chem could have argued that the state of scientific knowledge was such that the emissions could not have been prevented. This would equate strict liability far too closely with negligence and undermine its distributional objectives. According to the polluter pays principle, once knowledge of the existence of harmful emissions becomes known, the onus must be on the polluter to find a solution[60].

Taking the above considerations into account, a possible form of words, based upon the products liability defence, could be as follows:

> "The operator shall not be liable...if he proves that the state of scientific and technical knowledge during the time when he carried on the process was not such as to enable the existence of harmful emissions to be discovered."

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56 See Newdick, op. cit., at p. 323.
57 [1996] Env. L.R. 158.
58 The full facts are set out in ch. 3.
59 [1996] Env. L.R. 158, at p. 167.
60 It is interesting to note that this mirrors the definition of strict liability which has now been established in nuisance. Once a nuisance has been discovered the defendant must abate it, irrespective of whether he was at fault in causing the nuisance in the first place. See ch. 3, above.

3. REDUCING THE BURDEN OF PROOF ON CAUSATION

The difficulties faced by a plaintiff in establishing causation are formidable and were discussed at length in Chapter 3 with regard to examples drawn from recent English case law. The EC is contemplating means by which the burden of causation may be eased. However, the difficulty which must be overcome is how this objective can be achieved without holding operators liable for damage costs to which they did not contribute. Once again, this could give rise to open ended and hence unsustainable liability.

3.1 General Considerations

Causation is closely associated with the corrective functions of tort in that it seeks to hold the tortfeasor accountable for the loss flowing from his actions; thus the parties concerned are locked into a 'normative embrace'[61]. From an environmental perspective, causation fulfils a useful function in that it links the harm with the person who is in the best position to internalize costs, this is generally the polluter. Without a test of causation tort would be rendered a purely distributional device which is not linked to patterns of conduct. This would lead to collective responsibility, rather than individual accountability, and reduce incentives for risk management[62]. Furthermore, such an approach would cause insurers to withdraw cover in that, as has been explained in chapter 4, the viability of insurance is dependant upon the ability of the insured to limit the costs passed to the insurers. As Huber points out, "neither businesses or insurers can or will provide such assistance for very long if payments are not systematically and predictably linked to specific patterns of conduct"[63]. In the United States, a lax application of causality tests by the courts augmented the difficulties faced by insurers in assessing risk under CERCLA.[64]

Thus the difficulty which has to be overcome concerns the extent to which the burden of causation may be eased without giving rise to unsustainable liability of the nature

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[61] Englard, I. (1993), *The Philosophy of Tort Law*, Dartmouth, at p. 45.
[62] Teubner, G. (1994), "The Invisible Cupola: From Causal to Collective Attribution in Ecological Liability", in G. Teubner, L. Farmer, and D. Murphy, (eds.), *Environmental Law and Ecological Responsibility - The Concept and Practice of Ecological Self-Organization*, John Wiley & Sons, at p. 29.
[63] Huber, P. (1988) , "Environmental Hazards and Liability Law", in Litan, R.E., and Winston, C., (eds.), *Liability Perspectives and Policy*, The Brookings Institution, at pp. 147-148.
[64] This has largely been due to the fact that in many States cases are still decided by civil juries which are capricious by nature and more likely to be swayed by sympathy for the alleged victim than complex arguments relating to causation. For a review of the more outlandish decisions see Huber, P. (1991), *Galileo's Revenge: Junk Science in the Court Room*, New York: Harper Collins/Basic Books.

described above. It is necessary to establish a framework which enables the court to draw common sense conclusions based upon the circumstances of the case without the need to show with scientific certainty that a substance, emanating from the defendant's facility, caused or contributed to the harm. Price[65] notes that in certain English and American cases there has been an attempt to award damages on a proportionate basis calculated upon the increase in risk caused by the defendant's activity[66]. These are often referred to as 'lost chance cases' in that the cause of action is the chance of avoiding the harm which was lost as a result of the defendant's actions. The problem with this approach is that in many cases it may be impossible to quantify the extent to which the defendant's conduct increased the risk thereby lessening the plaintiff's chances of escaping the harm. Furthermore, it may lead to a situation in which, although all plaintiffs receive some compensation, none receive damages which in any way reflect the true costs which they have endured and some may receive damages to which they are not entitled. For these reasons Huber is dismissive of solutions of this type and describes them as "an edifice of compromise"[67].

An alternative solution would be to set up a rebuttable presumption based upon the circumstances of the case. Thus, if circumstantial evidence, such as prevailing wind direction and breaches of duty pointed to the defendant's facility, there would be a presumption that the harm was attributable to the defendant's activity. It would, of course, be possible to rebut the presumption on the grounds that the cause of the harm emanated from elsewhere; however, the onus would be on the defendant to adduce evidence in support of this contention. As will be seen below, this is the approach which has been adopted in Germany.

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65 Price, D.P.T., 'Causation - The Lords' Lost Chance', (1989) 38 *International Comparative Law Quarterly* 735.

66 In England this approach was adopted by the Court of Appeal in *Hotson* v. *East Berkshire Health Authority* [1987] 1 All E.R. 210 where it was stated: "The fundamental question is: what is the damage which the plaintiff suffered? Is it the onset of the avascular necrosis or is it the loss of chance of avoiding that condition? In my judgment it is the latter", per Dillon L.J., at p. 219. In the United States the United States Court of Appeals for the Fourth Circuit defined the 'lost chance' cause of action in the case of *Waffen* v. *U.S. Department of Health and Human Services* 799 F.2d 911,919 as follows: "The confusion that has persisted is based upon confusing 'causation' and 'harm'...it is better to consider the loss of a substantial chance of survival as a different type of loss with a different measure of damages than the loss of life, instead of treating the former as a variation on the burden of proving causation in a claim for negligently causing the patient's death. The destroyed chance is itself the compensable loss."

67 Huber, op. cit., p. 145.

3.2 Developments in Member States

Most environmental liability regimes already introduced in Member States retain standard causation tests[68]. However, in Germany measures have been taken to ease the burden of causation, in certain cases involving environmental damage, under the Environmental Liability Act 1991 (*Umwelthaftungsgetz* (*UmweltHG*)).[69]

Section 6(1) of the Act sets up a rebuttable presumption that the damage in question was caused by the defendant if it can be shown that the defendant's facility is 'inherently suited' to causing that type of harm[70]. Inherent suitedness is judged by reference to a range of factors relating to the nature of the production process and the circumstances surrounding the release such as meteorological conditions. However, the presumption can only be raised in limited circumstances. Section 6(2) provides that the presumption cannot be raised if the facility has been properly operated. This includes those facilities which have been managed in accordance with 'special operational duties'[71] and where no disruption of the business has occurred[72]. Compliance with all conditions attached to a special operational duty such as a permit, at the time the damage occurred, establishes a presumption that the duty was complied with[73]. For example, in a case decided by the Upper Regional Court in Düsseldorf[74] the plaintiff claimed that the paint-work and windows of her car had been damaged by iron oxide dust emitted from a facility operated by her husband's employers. It was

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[68] See McKenna & Co (1996), *Study of Civil Liability Systems for Remedying Environmental Damage*, (study conducted for EC Commission), at pp. 318 *et seq.*

[69] For an overview of the Act see Hoffman, W.C., "Germany's New Environmental Liability Act: Strict Liability for Facilities Causing Pollution", (1991) 38 *Netherlands International Law Review* 27.

[70] § 6(1) ELA 1991, "If a facility is inherently suited, on the facts of the particular case, to cause the damage that occurred, then it shall be presumed that this facility caused the damage. Inherent suitedness in a particular case is determined on the basis of the course of business, the structures used, the nature and concentration of the materials used and released, the weather conditions, the time and place at which the damage occurred, the nature of the damage, as well as all other conditions which speak for or against causation of the damage in the particular case."

[71] § 6(3) ELA 1991, "Special operational duties are those duties imposed by administrative permits, requirements, and enforceable administrative orders and regulatory laws, insofar as their purpose is to prevent environmental impacts that could be considered to be the course of the damage."

[72] § 6(2) ELA 1991, "Paragraph (1) shall not apply if the facility has been properly operated. A proper operation is present if the special operational duties have been complied with and no disruption of operations has occurred."

[73] § 6(4) ELA 1991, "If, for the purpose of supervision of a special operational duty, controls are prescribed in the permit, in requirements, in enforceable administrative orders and regulatory laws, then compliance with this operational duty shall be presumed, if: 1. the controls were carried out during the period in which the environmental impact in question may have issued from the facility, and these controls give rise to no inference of a violation of the operational duty, or, 2. at the time the claim for compensation is made, more than ten years have passed since the environmental impact in question occurred."

[74] (365) OLG [*upper regional court*] Düsseldorf, Ruling of 10/12/1993 (22 U 17293).

alleged that the damage occurred over a two day period when the husband borrowed the car and left it in the company car park. The court held that, whilst there was no doubt that the defendant's plant was capable of producing emissions leading to the type of harm in question in theory (or 'abstract' terms), there could be no presumption that there had been such an occurrence in this particular case (or in 'concrete' terms). At the time the car was left in the car park the plant had been operated in accordance with regulations, regular measurements of emission levels had been taken, and there had been no malfunction which could have led to the emission of iron oxide dust. Operation of the presumption will also be precluded if more than ten years have elapsed since the damage occurred.

However, compliance with regulatory standards will not preclude the presumption from being raised in circumstances where there has been an interruption of business[75]; although this term is not defined it would certainly include an incident such as a major accident. For example, in the case involving damage to the paint-work of a car referred to above, it was significant that there had been no malfunction which could have led to the escape of iron oxide.

Section 7 sets out the grounds upon which the presumption of causation may be rebutted. It provides that, where either multiple or individual facilities are inherently suited to causing the type of damage in question, the presumption will be rebutted if it can be shown that 'another circumstance' (*Umstand*) was also suited to causing the damage[76]. This would include pollution emanating from alternative sources.

3.3 European Initiatives

European initiatives have not been consistent on this issue although recent documents suggest there is now support for the view that there should be some means of easing the burden of causation, perhaps using the German system as a model.

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[75] See note 72, above.

[76] § 7(1) ELA 1991, "If multiple facilities are inherently suited to cause the damage, then the presumption shall not apply if another circumstance is, on the facts of the particular case, inherently suited to cause the damage. Inherent suitedness in a particular case is determined on the basis of the time and place at which the damage occurred, the nature of the damage, as well as all other conditions which speak for or against causation of the damage. (2) If only one facility is inherently suited to cause the damage, then the presumption shall not apply if another circumstance is, on the facts of the particular case, inherently suited to cause the damage."

3.3.1 Lugano Convention

The Council of Europe appears to have adopted, to a certain extent, the inherent suitedness test in its Convention; Article 10 provides:

> "When considering evidence of the causal link between the incident and the damage or, in the context of a dangerous activity as defined in Article 2, paragraph 1, sub-paragraph d, between the activity and the damage, the court shall take due account of the increased danger of causing such damage inherent in the dangerous activity."

This suggests, that, where the installation in question is particularly suited to causing the type of damage of which complaint is made, the court should be satisfied with a lesser standard of proof than would be the case if the damage in question was not typical of the operation in question. However, the provision is somewhat vague and does not appear to amount to a reversal of the burden of proof; inherent suitedness is merely expressed as one of the factors which the court should take into account.

3.3.2 Draft Directives on Civil Liability for Damage Caused by Waste

Far from contemplating means of easing the burden of causation, the 1989 proposal[77] set out a more onerous test than that which normally applies in domestic jurisdictions; thus, Article 4(6) provides:

> "The plaintiff shall be required to prove the damage or injury to the environment, and show the *overwhelming probability* of the causal relationship between the producer's waste and the damage or, as the case may be, the injury to the environment suffered." [emphasis added]

This is a far more rigorous test than the more usual balance of probabilities test and appears to demand scientific proof of the link between the escape and the damage. Such an approach would not accord with the 'precautionary principle' and, possibly as a result of such considerations, the causality test was altered by the 1991 proposal[78]. Thus Article 4(1)(c) of the amended proposal now provides that,

> "the burden of proof on the plaintiff, when affirming the causal link between the waste on the one hand and the damage or impairment of the environment suffered or likely to be suffered on the other hand; the burden of proof shall be no higher than the standard burden of proof in civil law."

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[77] OJ No C 251/3 (1989).
[78] OJ No C 192/6 (1991).

As a result, under this provision, the normal civil law rules subsisting in Member States relating to the establishment of causation would apply.

3.3.3 Discussion Documents

The Green Paper on Remedying Environmental Damage recognized that the imposition of a strict standard of liability does not dispense with the need to show that the defendant caused the harm:

> "Compared with fault-based liability, strict liability eases the burden of attaching liability because fault need not be established. However, the injured party must still prove that the damage was caused by someone's act."[79]

However, the Green Paper also identifies the need to establish causation as a factor which increases transaction costs:

> "Special problems arise in the case of environmental damage...establishing a causal connection may not be possible if the damage is the result of activities of many different parties. Difficulties also arise if the damage does not manifest itself until after a lapse of time. Finally the state of science regarding the causal link between exposure to pollution and damage is highly uncertain. The liable party may try to refute the injured party's evidence of causality with alternate scientific explanations for the damage."[80]

Each of these problems has been clearly demonstrated by the English cases reviewed in Chapter 3, thus, a further important issue concerns whether it is possible to reduce the transaction costs, created by the need to establish causation, without undermining the potential risk management incentives of strict liability. The Green Paper suggests that this is possible and cites as an example the German Environmental Liability Act.[81] The 1997 Working Paper is also in favour of the introduction of a rebuttable presumption of causation[82].

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[79] COM(93) 47 final, at 4.1.2.
[80] Ibid., at 2.1.8.
[81] Ibid., at 2.2.1.
[82] Commission of the European Communities, "Working Paper in Environmental Liability", Brussels 17 November 1997, at p. 4.

3.4 Main Considerations

As noted above, the EC Commission now appears to be of the opinion that provision should be made for reversing the burden of proof on causation in certain circumstances, although, it has yet to make any detailed recommendations regarding how this should be achieved. The German example under the ELA provides a useful model for the EC to follow subject to the following considerations.

3.4.1 Cases Where There is Only One Known Causal Agent

The plaintiff would clearly benefit from the presumption where the pollution in question is only associated with the industry in which the operator is involved or where there are no other sources in the area. This is because section 7(1) *UmweltHG* refers to the fact that, wherever there are multiple facilities, all of which are inherently suited to causing the type of damage in question, the presumption can only be rebutted where there is another circumstance.

However, the mere fact that an operator is engaged in the industry which is at the source of the pollution is not sufficient to raise the presumption. Section 6(1) narrows down potentially liable parties to those operators whose facilities are 'inherently suited' to causing the type of harm in question. This entails establishing far more than the fact that an operator handled the substance which is known to be the causal agent. For example, it is necessary to take into account all relevant factors such as prevailing weather conditions, whether there had been an incident at a plant and so forth. Where more than one facility meets these criteria paragraph 7(1) provides a second filter by focusing attention on the time and place at which the damage occurred. Thus, Teubner's[83] fears that such an approach fails to identify the specific polluter and results in collective responsibility are not entirely justified. The system retains incentives for risk management.

Article 11 of the *Lugano Convention* appears to follow this approach in that it restricts joint liability to those installations where there have been 'incidents'. However, in comparison with the German approach, this restriction is not sufficiently specific in that it makes no provision for consideration of geographic proximity of the plants to the place where the damage occurred and other relevant considerations such as the nature of the incident and the concentrations of harmful substances released.

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[83] Op. cit., at p. 27.

3.4.2 Cases Where There is More than One Possible Causal Agent

The extent to which such a provision would be of assistance to a plaintiff in cases where there is more than one possible causal agent very much depends upon the interpretation of the 'alternative cause' ground for rebuttal. In Chapter 2 it was noted that Holder[84] is of the opinion that, where substances are capable of acting synergistically, the court should be prepared to extend the 'common sense' approach which it already adopts where the nature of the causal agent is known. This accords with the reasoning of Hager[85] who argues that, when rebutting the presumption under the *UmweltHG*, the onus should be on the defendant to establish that the alternative causal agent was capable of causing the harm in isolation; otherwise, the defendant could ascribe the harm to environmental pollution.

However, if it transpires that another substance was capable of causing the harm on its own, this should not automatically rebut the presumption. In other words, the defendant should not be able to use the very uncertainty which the presumption is designed to overcome in order to rebut the presumption; this would defeat the object of the exercise and render the presumption of little benefit. As Price argues:

> "If the statistics raised by the plaintiff are sufficient to effect a transfer of the burden of proof it appears ludicrous to allow the defendant to rebut the presumption by using the identical evidence in rebuttal. What purpose does reversing the burden have in such a case?" [86]

The court should be afforded a discretion to consider all the facts of the case including other circumstances which point to the defendant. Thus, if there was a serious accident causing the release of a gas cloud which was borne by winds over a residential area, the court should be in a position to use its discretion to maintain the presumption. However, if there was no such incident and the plaintiff can show no more than a mathematical correlation between the alleged cause and the harm, the court may chose to allow the defence to rebut the presumption.

According to this interpretation of the provision, in a case such as *Reay and Hope* v. *BNFL*[87] the judge would have been in a position to infer that, given the fact that there was a breach(s) of statutory duty and given the fact that there was a strong

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[84] Holder, J., 'The Sellafield Litigation and Questions of Causation in Environmental Law', (1994) 47 (2) *Current Law Problems* 278, p. 302.
[85] Hager, G., "Umwelthaftungsgetz: The New German Environmental Liability Law" [1993] *Environmental Liability* 41, at p. 42.
[86] Op. cit., p. 749.
[87] [1994] Env. L.R. 320; see ch. 3, above.

mathematical association between the incidence of cancer amongst the offspring of Sellafield employees, common sense suggested that the parents' exposure to radiation contributed to the harm. This is not to say that the judge was wrong in this case as there were a number of methodological problems with the epidemiological study which cast doubt on its reliability. Nevertheless, as stated in Chapter 2, the current position at English common law unduly restricts the ability of the court to reach a common sense decision.

Reversal of the burden of causation in this manner does not inevitably lead the court to the conclusion that the defendant was responsible; it merely affords the court the opportunity to depart from the need to establish causation with scientific certainty and enables it to reach a common sense decision based upon the facts of the case.

3.4.3 Retention of Incentives to Abate Pollution

As Hager[88] argues, compliance with the bear minimum regulatory requirements is not always effective in reducing the risk of pollution. This was clearly demonstrated by the case of *Cockerill Sambre S.A.* v. *Foundation Reinwater and others*[89]. Thus, the fact that the presumption cannot be invoked where the operator has complied with administrative standards undermines incentives to review existing abatement technologies. Providing a specific ground for precluding the operation of the presumption in such circumstances is unduly restrictive; the issue of whether the plant has been properly operated should merely form one of the general considerations which the court may take into account when considering whether a particular facility was responsible for causing the harm in question. Hence, when there is only one facility in the vicinity which appears inherently suited to causing the harm according to the criteria set out in section 6(1) of the German ELA, it would seem reasonable to infer that the facility was to blame notwithstanding the fact that it was properly operated. Where more than one facility meets the general inherent suitedness criteria, the fact that one of them was not 'properly operated' would focus attention on that particular plant as being the most likely source of the pollution.

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[88] Op. cit., at p. 42.
[89] [1995] *TMA/Environmental Liability Law Review*.

4. LIBERAL CONFERAL OF STANDING

4.1 General Issues

As noted in Chapter 2, a major limitation of tort is that liability is contingent upon personal loss. Thus, in many cases of pollution, there may not be an individual or other legal person who is in a position to institute civil proceedings. Even in circumstances where environmental damage does coincide with personal loss or interference with property rights, the individual concerned may choose not to pursue the matter. This precludes the operation of civil liability as a means of protecting the so called 'un-owned environment', as the Commission has stated:

> "[A]n important characteristic of environmental law is the frequent lack of a private interest as an enforcement driving force. The environment is often characterised as our 'common heritage'. This also implies that more often than not there is no private appropriation of many parts of it, such as air, seas, wild flora and fauna. Therefore, it is often the case that deterioration of the environment does not cause immediate reaction, and that even if a problem does arise, there is no means by which individuals can use the law to remedy the problem, or there are no appropriate legal remedies available. Even for Community environmental law, it can be the case that important general principles cannot be enforced by individuals (e.g. polluter pays, preventative and precautionary principles)."[90]

It is, however, these very principles which the EC wishes to use civil liability to enforce by linking the definition of damage with environmental standards. Thus, increased standing in civil proceedings for non-governmental organizations (NGOs), such as environmental pressure groups, would be an essential ingredient of any civil liability regime designed to afford protection to the environment, in the widest sense of the term, and not merely the private interests which vest in it.

4.2 Developments in EU Member States

A number of continental jurisdictions have already begun to erode the distinction between the public interest and the interests of the individual so as to afford standing to NGOs in environmental matters. For the most part, it is not possible for NGOs to bring claims in respect of the environment as a separate entity from any private

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[90] Communication from the Commission, *Implementing Community Environmental Law*, COM(96) 500 final, p. 12 at 38.

interests which vest in it. In cases where private interests have in fact been affected, in certain jurisdictions, standing may be afforded to associations comprising members who have suffered direct loss as a result of the pollution[91].

A far more radical approach has been adopted in the Netherlands where NGOs now enjoy standing rights in civil proceedings which are on a par with those enjoyed by interest groups in judicial review proceedings. Any future European initiatives on civil liability for environmental damage should, therefore, consider the position in the Netherlands carefully[92].

At one time the position under Dutch Law as regards standing was similar to that under English Law in that there was a clear distinction between the realms of public and private law. Thus, whilst an interest group would be afforded standing in judicial review proceedings, it would not be afforded standing in tort actions. However, in 1986 the Dutch Supreme Court ruled in the case of *De Nieuwe Meer*[93] that the Civil Code's tort law provision[94] was capable of affording protection to general environmental interests and that organisations who represented those interests (according to their articles of association) should be entitled to seek injunctive relief in order to safeguard them. This decision was affirmed in the *Kuunders*[95] case in which various environmental foundations sought an injunction against a farmer who was operating a pigsty in breach of licensing requirements. The Supreme Court based its decision on the argument that environmental interests are 'collective interests' which cannot be adequately protected through isolated private actions.

The approach adopted by the Dutch Supreme Court on the issue of standing in tort actions has now been codified by the Dutch legislature; to this end the Collective Actions Act 1994 inserted two new Articles into Book 3, Title 11, of the Civil Code on Rights of Action which now provides:

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91 In Denmark section 34(3) of the Freshwater Fisheries Act provides that the Danish Angling Association and the Association of Commercial Fisheries may claim compensation in respect of the cost of restocking polluted lakes and rivers. In France similar groups were awarded compensation in the *Protex* Case following pollution of the Loire. See McKenna & Co, op. cit., at pp. 276 *et seq.*

92 For an overview of developments in the Netherlands see Betlem, G., "Standing for Ecosystems - Going Dutch" [1995] *Cambridge Law Journal* 153; Bierbooms, P., and de Vries, L., "Collective Action and Environmental Interests: The Situation in the Netherlands" [1994] *Environmental Liability* 111.

93 Supreme Court 27 June 1986, *Nederlandse Jurisprudentie* 1987, 743, note by Heemskeerk.

94 Article 162 of Book 6.

95 Supreme Court 18 December 1992, *Nederlandse Jurisprudentie* 1994, 139 note by Scheltema and Brunner.

> "An association or foundation with full legal capacity is entitled to entertain an action for the purposes of protecting interests of other persons that are similar in kind, inasmuch as it promotes these interests according to its articles of association."[96]

This is subject to a number of limitations which include the need for the NGO to establish that it has made sufficient attempts to settle the matter out of court[97]. Furthermore, an NGO would not be able to insist upon pursuing an action against the will of the landowners affected[98]. In addition, as a general principle of Dutch law, vexatious claims are prohibited by Article 3.13 of the Civil Code on abuse of rights.

In addition to injunctive relief, NGOs may recover damages in respect of clean up costs incurred as a result of a polluting incident[99]. In the *Kuunders* case the court stated that ecological damage could be regarded as "unlawfulness" towards those organizations who have as their object the protection of such interests. In the *Borcea*[100] case the Dutch Society for the Protection of Animals sought to recover the costs it had incurred in cleaning and nursing sea birds which had been caught by an oil spill. It was held that, although sea birds could not be regarded as anyone's property, their conservation must be regarded as a public interest deserving of protection in the Netherlands. Furthermore, this public interest could be viewed as the "individual interest" of the Society as its very purpose was to undertake the conservation of such animals. Accordingly, the court could see no reason why the Society should not be able to recover damages "in so far as the Society's claim relates to the damage which it itself has suffered."[101]

The logic applied by the court in this case was ingenious in that, by regarding the general interest in bird protection as the Society's own interest, a link was provided between ecological damage and a private interest which could provide the basis of an action in tort. Thus, as Betlem states, once this step has been taken:

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[96] Article 3: 305a(1).
[97] Article 3: 305a(2): "A legal person within the meaning of section 1 shall not have standing if and when it has insufficiently attempted, in the circumstances of the case, to reach the result sought be the action by way of consultation with the defendant".
[98] Article 3: 305a(4): "An act cannot form the basis of an action within the meaning of section 1 to the extent that the person affected by it objects to the action".
[99] See Betlem, op. cit., at pp. 164-167.
[100] District Court Rotterdam 15 March 1991, (1992) *Netherlands Yearbook of International Law* (NYIL) 513.
[101] Ibid.

> "A public interest group can...'play the legal game' like any other player and claim compensation for harm done to its own interest."[102]

It is interesting to note that this reasoning accords with the philosophical arguments, explored in chapter 4, which suggest that a form of public equitable proprietary interest in the environment should be recognized. The Dutch approach represents a practical application of this principle in that environmental harm is regarded as a loss to the NGO in its capacity as a representative of the public interest.

4.3 European Initiatives

4.3.1 Lugano Convention

Article 18 of the Council of Europe Convention affords standing to "[a]ny association or foundation which according to its statutes aims at the protection of the environment" provided that it complies with "any further conditions of internal law." This enables such organizations to seek injunctive relief in order to; prohibit dangerous and unlawful activities which pose a threat to the environment; require that the operator takes measures to prevent an incident or damage from occurring (similar to a *quia timet* injunction); require that the operator takes measures to prevent damage after an incident has occurred; require that the operator takes reinstatement measures where the damage has already occurred.

However, the Convention leaves domestic jurisdictions free to decide the circumstances in which such a request should be denied and the court or tribunal before which such requests should be made.

4.3.2 Draft Directives on Civil Liability for Damage Caused by Waste

The 1989 proposal[103] referred to affording 'common interest groups'[104] standing to pursue civil claims, however, this would only be in circumstances "[w]here the law in Member States gives...groups the right to bring an action as plaintiff..."[105] As we have seen above, in the civil jurisdictions of most Member States, interest groups are only afforded standing in very limited circumstances with the result that the provision would make little practical difference to the role of such interest groups.

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102 Op. cit., at p. 166.
103 OJ No C 251/3 (1989).
104 Arts 4(3), 4(4).
105 Art. 4(4).

The amended 1991[106] proposal goes considerably further than the 1989 proposal and requires Member States to guarantee the standing of interest groups. Article 4(1)(a) provides that Member States "shall determine...the person who may bring a legal action." However, in making this determination Member States are not afforded any discretion to exclude interest groups. Article 4(3) provides,

> "[c]ommon interest groups or associations, which have as their object the protection of nature and the environment, shall have the right...to seek any remedy...or to join in legal proceedings...brought."

Such an approach would certainly increase the potential role of pressure groups although the proposal leaves the precise detail of determining the circumstances in which an interest group would be able to bring an action to the Member States.[107]

4.3.3 Discussion Documents

The Commission Green Paper retreated from affording standing to environmental pressure groups. The Draft Green Paper[108] which preceded the final version stated "it is difficult to see the role of environmental associations in a civil liability system for damage to the environment" and emphasised that civil liability depends on there being "a party with legal interest who can bring an action." This suggests that the Commission found that it would be conceptually difficult to allow a right of action to those who have not suffered direct loss. However, the draft paper accepted that interest groups could have a role in securing the cessation of an activity which would presumably entail allowing them to apply for injunctive relief. This is the approach adopted in the Netherlands[109] and under the *Lugano* Convention although the *Lugano* convention goes further in that, as has been described above, it allows interest groups to apply for mandatory in addition to prohibitive injunctions.

However, the final version of the Commission Green Paper entirely rejected the notion that interest groups should be afforded any form of standing:

> "Where damage occurs to property that is not owned, no injured party with the right to bring a legal action can be identified. With no legal or natural person to sue on behalf of the environment, the costs of

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106 OJ No C 192/6 (1991).
107 1989 Proposal art. 4(3), "[t]he conditions under which interest groups...may bring an action before the competent authorities shall be laid down by national legislation."
108 COM(92) 52.
109 See below.

> restoring environmental damage cannot be recovered via civil liability."[110]

The fact that the Commission elected not to explore this issue in the Green Paper is curious in that the issue of the right to bring a legal action is closely associated with the main theme of the paper which concerns restoration of the natural environment.

However, the Commission now appears to have returned to the view that standing should be afforded to NGOs in civil proceedings. The 1997 Working Paper recommends that public interest groups should be in a position to seek injunctive relief or damages in respect of natural resource damage[111]. It will be recalled that the Commission is of the opinion that natural resource damage should be defined by reference to EC standards. The fact that the Paper recommends that standing for public interest groups should be restricted to cases involving natural resource damage is significant in that, as stated in the previous chapter, it is likely that natural resource damage will be defined by reference to EC standards. This demonstrates that the Commission considers that such groups would play an integral role in its strategy to use civil liability as a means of enforcing these standards.

4.4 Main Considerations

Increased standing for NGOs would be a vital component of any civil liability regime designed to reduce the risk of ecological damage. As the Dutch Supreme Court reasoned in the *Kuunders* case, unless there is some mechanism for aggregating the diffuse costs of this form of pollution, tortious liability cannot play any useful role in this context. One method of aggregating these costs is to allow NGOs to undertake representative actions on behalf of the public interest. This view now appears to be shared by the Commission in that, although the 1993 Green Paper rejected the notion that standing should be extended to NGOs[112], the latest working paper[113] suggests that this is an issue which should be considered. Furthermore, both the Proposed Directive on Civil liability for Damage Caused by Waste[114] and the *Lugano* Convention[115] require the adoption of measures designed to increase the standing of NGOs. However, the comparative study, above, focuses attention on certain issues which will require careful consideration

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110 Com(93) 47 final, p. 11 at 2.1.9.
111 Op. cit., p. 5.
112 Com(93) 47 final, p. 11 at 2.1.9.
113 Loc. cit., p. 5.
114 Loc. cit., Article 4.
115 Loc. cit., Article 18.

4.4.1 Usurpation of Private Bargaining Rights

A particularly difficult issue concerns the need to balance the objective of environmental protection against the freedom of a private individual to reach his own settlement with a polluter. The Dutch system prohibits NGOs from taking action where this would be contrary to the wishes of individuals directly affected. This gives rise to a dilemma in that, whilst such agreements may be in the short term interests of the landowners concerned, they may not be in the best interests of the environment. If public interest issues demand that pollution should, notwithstanding any such private agreements, still be halted by means of injunctive relief, it could be argued that only a governmental organization with statutory powers should be in a position to override the landowners freedom to contract. This is the approach adopted in Italy where public authorities, as trustees for the community, are afforded sole responsibility for bringing civil claims for environmental damage[116]. However, the increased standing afforded to public authorities has been at the expense of the standing rights afforded to NGOs which have been entirely precluded from instigating proceedings[117]. The problem with this approach is that it prevents any other organisation from acting in default of the public authority which may be fettered by, for example, policy considerations or lack of resources. As argued in the previous chapter, the EU wishes to increase the role of civil liability in order reduce reliance upon public authorities. The solution to this problem may be to adopt elements of both the Dutch and Italian systems; thus whilst an NGO would be prevented from instigating proceedings where the individuals concerned object, it would nevertheless remain open to a public authority to instigate its own proceedings in the public interest. This would augment the regulatory powers which enable certain authorities to carry out preventative or remedial measures in default and to recover the costs from the polluter.[118]

4.4.2 Remedies

The other main issue which deserves careful consideration concerns which remedies should be available to an NGO. Injunctions are most commonly sought to prevent the continuance of, for example, harmful emissions, or to prevent an activity from proceeding which constitutes an immediate threat. Where damage has already occurred the issue is rather more complicated in that it must be ensured that any payments made benefit the environment as opposed to the NGO. An award of compensatory damages is clearly appropriate where an organization has incurred

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116 Law 349/1986. For an overview of the Italian system see, Bianchi, A., "The Harmonization of Laws on Liability for Environmental Damage in Europe: An Italian Perspective", (1994) 6(1) *Journal of Environmental Law* 21.
117 Ibid, Article 13.
118 See, for example, section 161 Water Resources Act 1991.

expenses as a result of carrying out remediation works. This is the approach followed in Holland; the 1991 Draft Directive on Civil liability for Damage Caused by Waste also allows interest groups to recover expenses which they have incurred as a result of clean-up operations[119]. A further consideration is that costs which have actually been incurred by interest groups may only represent part of the full costs of the pollution in that the organisation may not have had the expertise or resources to effect a full clean-up; further measures may be necessary in future. The European Environmental Law Association has suggested that the most obvious solution would be to pay damages, calculated upon the basis of the full cost to the environment, into a trust fund[120]. This would ensure that the money could only be used for the purpose of on-going remediation works resulting from the original escape. In England such an approach is already common place in personal injuries cases where a person has been left with a long term disability. Periodic payments are made into a trust fund from which the trustees may, from time to time, authorise payments in order to pay for nursing or further treatment[121].

An alternative solution would be to enable NGOs to seek mandatory injunctions requiring the polluter to effect clean-up measures. In response to the Commission Green Paper the European Environmental Law Association argued:

> "Given the inclusion in the Green Paper of discussion on the restoration of the environment, we see no reason why it should be beyond the scope of a system of civil liability to allow persons to bring proceedings to seek an order from a court requiring a defendant to repair environmental damage, or to pay the cost incurred by others in so doing."[122]

Article 4(3) of the 1991 draft Directive on Civil Liability for Damage Caused by Waste provides that interest groups should be in a position to obtain any remedy; this would include mandatory injunctions in those jurisdictions where they are available. It will be

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[119] Article 4(3): "Common interest groups or associations, which have as their object the protection of nature and the environment, shall have the right either to seek any remedy under paragraph 1(b)..." Paragraph 1(b) provides for: "...the reimbursement of costs lawfully incurred in reinstating the environment and in taking preventative measures (including costs of damage caused by preventative measures)".

[120] European Environmental Law Association, *Repairing Damage to the Environment - A community System of Civil Liability* (submission to the Joint Public Hearing of the European Parliament and the Commission of the European Communities on Preventing and Remedying Environmental Damage), Brussels 3/4 November 1993, at para. 11.13.

[121] See The Law Commission Consultation Paper No. 125, *Structural Settlements and Interim and Provisional Damages.*

[122] Op. cit., at para. 11.3.

recalled that Article 18 of the *Lugano* Convention identifies the different forms of injunctive relief which should be available to an interest group. Article 18(1)(d) provides that an interest group should be able to request "that the operator be ordered to take measures of reinstatement." In order to ensure that steps are taken to remedy environmental damage which has already taken place, any EC instrument should include such a provision.

5. CLASS ACTIONS

5.1 Justifications for the Class Action

Class actions constitute an alternative means of aggregating diffuse environmental costs to the representative action. Transaction costs are high where a single polluting incident affects a great number of parties with the result that many claims may be brought in connection with the same incident. This gives rise to transaction costs in the form of aggregation costs; these represent the costs of aggregating all the claims so that the damages payable represent the true overall cost of the damage caused. Where many separate actions are brought aggregation costs are high due to the fact that proceedings are duplicated. This is an inefficient solution which benefits the polluter since, due to the expense of legal proceedings, only those who have been most severely affected are likely to bring civil claims. As a result the polluter is not required to internalise the full aggregate costs of the pollution.

5.2 Developments in Member States

In the UK, aggregation costs can be reduced to a certain extent by the use of group actions in cases where there is a commonality of interests or issues. By allowing all affected parties to join in the same proceedings the number of lawyers involved can be reduced and the facts of the case can be heard at a single trial and any subsequent appeal hearings[123]. The group action procedure has been used in two well known environmental cases, namely, *A.B. & others* v. *South West Water Services Ltd*[124] which, it will be recalled, concerned personal injuries claims following the release of aluminium sulphate into the public drinking water supply. The other notable example is the case of *Hunter* v. *London Docklands Development Corporation*[125] which, as we

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[123] There is no formal procedure for group actions, however, the Supreme Court Procedural Committee issued guidance in a 'Guide for use in Group Actions', May 1991. In order to increase the efficiency of the procedure in future it is proposed that a single High Court judge such preside over proceedings.
[124] [1993] 2 W.L.R. 507.
[125] [1996] 2 W.L.R. 348.

have seen, concerned public and private nuisance claims brought by local residents during the main phase of the redevelopment of the London Docklands area. However, group actions are still relatively costly in that they are often more time consuming than individual actions. This is due to the fact that, although the facts of the case can be heard at a single trial, there must be an individual assessment of each damages claim.

In the United States, this problem may be avoided by the use of class actions in which a single case is taken to be representative of all those with similar claims. A single award is made which is applicable to all those within the class. However, in Europe, class actions are largely unknown although the matter is under consideration in Finland. The main objection to the procedure is that damage claims normally vary considerably in each individual case and it would be arbitrary and artificial to impose a uniform award on all parties. In the United States, some provision is made for such variances in that classes are defined according to the nature of the loss they have suffered; thus, those suffering personal injury would be grouped into a separate class from those who have suffered property damage[126].

In France, limited provision for class actions for environmental damage has recently been introduced by law 95/101 of 2nd February 1995 which allows recognised environmental pressure groups to pursue civil claims on behalf of an affected class of individuals. Article 5 IV inserts a new law into the Rural Code which provides as follows:

> "Where several identified individuals have suffered personal damage by the same person (individual or legal entity) and had a common origin, in the fields mentioned in L252-3, any interest group which is authorised (*agrée*) in accordance with Article L - 252 - 1 may, if it has been commissioned by at least two of the affected individuals, bring an action before any jurisdiction in the name of those individuals."

The fields referred to by Article L - 252 - 3 constitute those,

> "acts concerning a direct or indirect damage to the collective interests that the authorised interest groups have to protect and constituting a violation of the laws relating to the protection of nature and the

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126 For example, plaintiffs who took part in litigation following the accident at the Three Mile Island Nuclear Power Station were divided into three classes. The first two classes concerned individuals and businesses within 25 miles of the plant who had suffered ordinary economic loss as a result of the turmoil and mass evacuation which occurred following the accident. The third class included all those who had "suffered personal injury, incurred medical expenses, [or]...suffered emotional distress." See *In re Three Mile Island Litigation*, 557 F. Supp. 96 (M.D. Pa. 1982).

> environment, the improvement of standards of living, the protection of water, air, soils, sites and landscapes, town planning or the purpose of which is the prevention of pollution and nuisances, as well as of the texts enacted for the application of such laws."

Accordingly, aggregation costs are substantially reduced by allowing an interest group to pursue a single claim in respect of the collective costs of the damage as opposed to separate claims in respect of the damage suffered by each individual. At present, there are no examples of how this provision might work in practice. However, in order to avoid disputes a common interest group would probably only agree to undertake a class action if the members of the class agreed in advance to accept an equal pro - rata share of any damages awarded. Any individual claiming to have incurred substantially greater loss would probably be advised to pursue a separate claim.

5.3 European Initiatives

Despite the above developments, as a general rule, class actions remain an unpopular concept in Europe. This is reflected in the fact that none of the European initiatives on civil liability recommend their use in an environmental context. The *Lugano* Convention does, however, expressly permit the use of class actions subject to the proviso that such actions would ordinarily be permitted within the jurisdiction of the signatory; to this end Article 22 provides:

> "A court other than the court first seised may also, on the application of one of the parties, decline jurisdiction if the law of that court permits the consolidation of related actions and the court first seised has jurisdiction over both actions...[F]or the purposes of this Article, actions are deemed to be related where they are so closely connected that it is expedient to hear and determine them together to avoid the risk of irreconcilable judgments resulting from separate proceedings."

5.4 Main Considerations

From the point of view of individual victims the class action has certain advantages over the representative action in that it allows for the compensation of individuals. However, the primary focus of such actions is on personal loss which, as has been discussed above, does not always coincide with environmental harm; thus, whilst damages awarded may provide a more accurate reflection of the true costs of the activity than isolated actions, it may still be the case that such damages are insufficient to effect environmental remediation.

6. REMEDIES FOR ENVIRONMENTAL DAMAGE

6.1 General Considerations

One of the main limitations of tort as a means of environmental protection concerns the fact that remedies usually reflect private loss as opposed to environmental damage. An environmental liability regime would also need to make provision for damages in respect of environmental impairment. This raises two complex issues, namely the definition of environmental damage and the extent to which damages should reflect the costs of restoring the environment to its former state.

As regards injunctive relief, it has been argued that injunctions provide an extremely effective remedy in an environmental context. However, their efficacy as a means of environmental protection may be severely undermined if courts exercise their discretion to award damages in lieu too freely. These issues have been highlighted by developments in Member States and EC initiatives.

6.2 Developments in Member States

6.2.1 Recoverable Damages

As regards the position in the UK it has been explained how it is possible to recover restoration costs provided that they are foreseeable. The prime object of damages is to restore the plaintiff to the position he was in prior to the occurrence of the harm. This may entail awarding damages which enable him to restore his land to the state it was in prior to the incident. However, where such costs would be out of proportion to the value of land damages are calculated on the basis of the diminution in the market value of the land caused by the pollution. A similar rule occurs under the German Civil Code (BGB). Paragraph 251(2)BGB[127] provides that the defendant will be liable for the full costs of remediation unless such costs are unreasonable in relation to the value of the object impaired. An unreasonable relation between restoration costs and the value of the land is considered to exist where restoration costs exceed the value of the land by approximately 30%.

Calculating damages on the basis of the diminution in market value of the property may not provide sufficient funds to undertake restoration work. Thus, it is necessary to consider whether there is some alternative basis upon which damages for

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[127] This provision is applied under s. 16 of the Environmental Protection Act 1991 (*UmweltHG*).

environmental impairment may be calculated. An alternative solution would be to calculate damages on the basis of the amount it would cost to restore the environmental media to a level which would enable it to be used for a certain purpose. This approach allows for considerably more flexibility than calculating damages on the basis of loss of market value alone. However, this in turn raises the issue of whether property should be restored to a standard which enables it to be used for a specific or limited number of end uses as opposed to all possible end use. The former approach is adopted in the UK where informal trigger values[128], set by the Inter-Departmental Committee on the Redevelopment of Contaminated Land, are used to determine whether land is clean enough to be used for certain purposes[129]. A similar approach is adopted in Sweden when applying section 5 of the Environmental Liability Act (1969:387). This provides that anyone performing, or intending to perform, an environmentally hazardous activity has a duty to remedy detrimental environmental effects after the activity has ceased. However, it is always borne in mind that the character of, for example, a plot of land may have changed irreversibly as a result of the contamination. In these circumstances it may be necessary to restore the land to a lesser standard which may render it suitable for an alternate use which is not adversely affected by the residual contamination.

In contrast, the Netherlands has adopted a 'polished earth' approach under its Soil Protection Act 1994 which demands that land should be restored to a standard which renders it suitable to accommodate all, or at least as many as possible, potential end uses. Article 38(1) introduces the concept of *multifunctionality* which means that the functional properties of the soil for man, plant or animal are maintained or restored. However, there are exceptions which considerably ease this burden. The multifunctionality requirement may be abandoned if there are special environmental, technical or financial circumstances which render this approach infeasible or unrealistic. Special environmental circumstances would exist if, for example, the clean up operations would result in the escape of hazardous substances. Technical and financial circumstances exist if the cost of restoration is out of proportion to the cost of

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[128] They are divided into three groups: Group A (contaminants which are harmful to human health) comprising arsenic, cadmium, chromium, lead, mercury, selenium: Group B (phytoxic contaminants which are not normally harmful to human health) comprising boron, copper, nickel, zinc: Group C (contaminants from former coal carbonisation plants) comprising cyanide, thiocyanate sulphate, sulphide, sulphur, phenols, polycyclic aromatic hydrocarbons.

[129] Certain developments can be undertaken in a manner which does not require the land to be cleaned at all. For example, paragraph 41 of I.C.R.C.L. Guidance Note 59/83 provides that developments should be planned "so that the most badly contaminated areas are located beneath permanent hard cover (roads, pavements, parking areas) leaving the less contaminated parts of the site for the main buildings or for gardens and amenity areas."

cheaper yet effective alternatives such as isolation, control and monitoring of the substances. Formulas exist for calculating when these alternatives should be employed in place of multifunctionality[130].

Another difficult issue concerns the extent to which pure economic loss should be recoverable. In chapter 3 it was explained that, under English Law, liability for economic loss is restricted to damage which flows directly from damage to property. Thus businesses which have lost trade as a result of environmental damage may not claim in respect of lost profits.[131] In contrast, certain liability regimes introduced in other Member States have made provision for economic loss. This is the case under the new systems in both Spain[132] and Finland.[133] However, in order to avoid opening the 'floodgates' it has been recommended that only those with a direct commercial interest in the resource affected should be able to recover economic loss.[134] Thus, if, for example, chemicals leaked from a plant situated on the coast and washed ashore near a resort, fishermen would be able to claim in respect of lost profits. However, tourists would be precluded from claiming damages in respect of the impairment of their holidays.

6.2.2 Injunctive Relief

In chapter 2 it was argued that injunctions are the most effective remedy in an environmental context in that they compel the polluter to investigate cleaner technologies. However, the English courts have a wide discretion to award damages in lieu. This contrasts with the position in the Netherlands in which there is a general presumption in favour of injunctive relief and the power to grant damages in lieu is more strictly controlled[135]. In short, the plaintiff is entitled to injunctive relief as of right[136] unless societal interests would be harmed[137].

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[130] For example, for clean up costs up to 10,000 Dutch Guilders, costs are deemed excessive if they are nine times greater than the alternative measures. Where clean up costs amount to up to 100 million Dutch Guilders, these costs will be considered excessive if the alternative measures would be one and a half times cheaper.

[131] See, for example, *Weller & Co. Ltd.* v. *Foot and Mouth Disease Research Institute* [1966] 1 Q.B. 560.

[132] See Barrenetxea, J, M., "The Spanish Draft Act on Liability for Environmental Damage" [1997] *Environmental Liability* 115.

[133] See Wetterstein, P., "The Finnish Environmental Damage Compensation Act - and some Comparisons with Norwegian and Swedish Law" [1995] *Environmental Liability* 41.

[134] See Barrenetxea, op. cit., at pp. 117-118; Wetterstein, op. cit., at p 45. Wetterstein points out that this is the approach adopted in Norway.

[135] See Betlem, G. (1993), *Civil Liability for Transfrontier Pollution - Dutch Environmental Tort Law in International Cases in the Light of Community Law*, Graham & Trotman/Martinus Nijhoff: Betlem, G. (1995) "Transboundary Enforcement: Free Movement of Injunctions", in S. Deimann and B. Dyssli (eds.), *Environmental Rights - Law, Litigation and Access to Justice*, Cameron May.

[136] Art. 3:296 Civil Code.

6.3 European Initiatives

6.3.1 Lugano Convention

Article 7 of the Convention allows for the recovery of damages in respect of death, physical injury, damage to property or environmental impairment. Environmental impairment is defined as:

> "loss or damage by impairment of the environment in so far as this is not considered to be damage within the meanings of sub-paragraphs a or b above provided that compensation for impairment of the environment, other than for loss of profit from such impairment, shall be limited to the costs of measures of reinstatement actually undertaken or to be undertaken; the costs of preventive measures and any loss or damage caused by preventive measures."

The term 'environmental impairment' is nebulous, however, it seems that it relates to damage which is capable of being rectified by means of an injunction to prevent the continuation of the offending activity or damages amounting to the costs of restoring the property affected to its former state. However, according to Article 2(7)(c) this does not encompass economic loss resulting from such impairment.

As noted above, Article 18 of the Convention also makes specific provision for environmental interest groups to seek injunctive relief in order to prevent damage or to compel operators to "take measures of reinstatement" .

6.3.2 Waste Proposals

In common with the Lugano Convention, both the 1989 and 1991 proposals for a directive on civil liability for damage caused by waste include death, personal injury and damage to property within the definition of damage under Article 2(1)(c). As regards wider types of environmental harm, the 1989 proposal referred to 'injury to the environment' which was defined as,

> "a significant and persistent interference in the environment caused by a modification of the physical, chemical or biological conditions of water, soil and/or air in so far as these are not considered to be damage within the meaning of subparagraph (c)(ii)."

The 1991 proposal replaced this complex notion of environmental injury with one of 'environmental impairment' in common with the Lugano Convention. However,

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[137] Art. 6:168 Civil Code.

unlike the Lugano Convention, the 1991 Waste Proposal also contains a definition of environmental impairment:

> " '*Impairment of the environment*' means any significant physical, chemical or biological deterioration of the environment insofar as this is not considered to be damage within the meaning of sub-paragraph (c)(ii)."

The key part of this definition refers to significant deterioration which means that, in order to be actionable, harm would have to be tangible and capable of being rectified. Article 4(1)(d) leaves the recoverability of economic loss to the jurisdiction of Member States.

Article 4(1)(b) of the 1991 proposal makes provision for the granting of both prohibitory and mandatory injunctions.

6.3.3 Discussion Documents

The Green Paper recognizes that it is difficult to place a monetary value on certain environmental attributes; it is however, possible to quantify the cost of remedying tangible environmental damage which is capable of being rectified. The Green Paper states:

> "[I]f there is an obligation to maintain those elements of the environment in a healthy state, a concurrent obligation arises to restore these elements to that state whenever they are damaged. This obligation carries with it the right to claim the costs of restoration from the party who caused the damage. *The amount of compensation the liable party is obliged to pay is computed in terms of the actual cost of environmental restoration.*"[138] [emphasis added]

The Green Paper did, however, point out that in certain cases it may be difficult to identify the threshold of damage in cases of environmental impairment. In other words, the point at which the environment becomes sufficiently degraded by pollution to warrant remediation:

> "Actual physical destruction or gross contamination is generally considered damage, but what about lesser impacts? All human activities result in emissions, but the point at which these emissions are to be

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[138] Ibid.

> considered "pollution" is not clear. Nor is it clear at which point "pollution" causes actual damage."[139]

As the subsequent Working Paper indicates, this is where it may be possible to refer to environmental standards. It will be recalled from chapter 5 that the Paper suggests linking the definition of damage with existing environmental standards set by Directives.

Neither document deals with the issue of economic loss or the circumstances in which injunctive relief should be available.

6.4 Main Considerations

6.4.1 The Threshold of Damage

Most environmental liability proposals cover standard heads of damage including personal injury and property damage. However, defining the point at which general environmental impairment should become actionable is rather more difficult. For the sake of certainty, this is where a civil liability regime could be linked with the other elements of the EC's environmental programme. Thus damage would be deemed to have occurred where levels of specified elements exceed levels set by the EC. In chapter 5 it was suggested that there is evidence to suggest that the Commission may be in favour of such an integrated approach. As Carnwath J. noted in *Blue Circle Industries Plc* v. *Ministry of Defence*, in cases of doubt, regulatory standards can be useful in determining whether a change is significant:

> "Given the sophistication of the regulatory systems now covering most areas of human activity, the views of the regulatory authorities are often critical...in the *Cambridge Water* case [1994] 2 A.C. 264 the damage was caused because the contamination rendered the water unusable in accordance with the standards prescribed pursuant to the relevant EEC directive, not because it was in fact dangerous to health (see per Lord Goff, p. 249G). Thus, although the existence of a statutory regulatory system cannot alter the requirement that there should be some physical change, *it may be relevant in considering whether the physical change is of any practical significance.*"[140] [emphasis added]

However, the problems of linking the definition of damage with quality objectives or emission limits have also been highlighted; it will be recalled that standards have only

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[139] COM(93) 47 final, p. 10 at 2.1.7.
[140] [1997] Env. L.R. 341, at pp. 347-348.

been set in respect of a limited number of substances. As a result, such limits should operate as minimum requirements in cases or doubt and not preclude those who can show that they have been adversely affected by lesser concentrations from seeking redress.

6.4.2 Restoration Standards

It seems that the courts would be left to determine the quantum of damages according to existing domestic legal principles. As explained in chapter 4 this entails balancing the right to full compensation against the technical feasibility and cost of environmental remediation. In many cases this involves assessing damages on the basis of the lost use of a natural resource and the costs of restoring that use. Thus in *Cambridge Water* v. *Eastern Counties Leather*[141], had the damage been foreseeable, *Cambridge Water* would have been able to recover the costs of re-locating the pumping station so as to enable it to continue abstracting drinking water. If the water had been abstracted for another purpose, for use in the manufacture of paper for example, then clearly the contamination would not have affected the use of the resource.

However, Steele[142] is concerned that the linking of damages to the use of a natural resource risks partitioning the environment into tradable assets in which the value of a natural resource resides in its commercial use. Once natural resources are priced in this way they become vulnerable to becoming the subject of market transactions. This is because the market exerts a pressure to trade resources so that they eventually vest in the person who values them most highly (the 'transformative economy')[143], as Steele explains:

> "[T]he market approach to private law clearly treats property as having value because of its role in a human, not a natural economy. More than this, it derives the value of land from human preferences, which can be maximized only through exchange and use".[144]

Thus, where the polluter's use appears to be more profitable, according to economic criteria, the court may, for example, be persuaded to grant damages in lieu of an injunction calculated upon the basis of the plaintiff's use of the resource. Such an

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141 [1994] 2 W.L.R. 53.
142 Steele, J., "Remedies and Remediation: Foundation Issues in Environmental Liability", (1995) 58(5) *Modern Law Review* 615.
143 See Sax, J., "Property Rights and the Economy of Nature: Understanding *Lucas* v. *South Carolina Coastal Council*, (1992) 45 *Stanford Law Review* 1433.
144 Ibid., at p. 630.

approach leaves "little space for the concept of environmental protection and would essentially tend to enhance the risk of environmental damage".[145]

As a result, when considering the quantum of damages under an environmental liability system, it would be necessary for the courts to take a broad view of 'use' which takes account of the role of the resource in the eco-system. The Dutch multifunctionality approach invites the court to take this view. In contrast, English Government policy focuses on restoring land for a specific purpose.[146] However, this narrow view is not necessarily shared by the courts when considering clean up costs in the context of liability in tort. In *Blue Circle Industries Plc* v. *Ministry of Defence*, the radiation contaminated a small area of marshland near the boundary of the site where no one generally had cause to go. Furthermore, although levels of contamination exceeded statutory limits, they were insufficient to constitute a health risk. Nevertheless, in the High Court, Carnwath J. was prepared to take a broad view of use which encompassed impairment of the enjoyment of property:

> "That the contamination rendered the property less useful or less valuable is...to my mind self evident. The matter can be looked at narrowly, simply on the basis that, from the time the contamination was made known until it had been dealt with by removing the earth, that part of the estate could not be used as freely as it had been. Indeed, during the course of the works it could not be used at all."[147]

Such an approach would be consistent with a liability regime which has at its heart the objective of environmental protection.

6.4.3 Economic Loss

European proposals have declined to include an express provision allowing for the recovery of damages in respect of pure economic loss; this is understandable. The extent to which the net of liability can be cast beyond those directly affected by the damage is bound with policy considerations; such as the classic 'floodgates argument'.[148] Accordingly it is difficult to set a rigid legal test. To this end the courts have traditionally enjoyed a discretion to widen and draw back the net in accordance

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145 Ibid., at p. 631.
146 See Department of the Environment and Welsh Office (1994), *Framework for Contaminated Land*, HMSO, at p. 4. This advocates the "suitable for use" approach in that it permits "contaminated land to be kept in, or returned to, beneficial use wherever practicable".
147 [1996] Env. L.R. 341, at p. 346.
148 As Cardozo C.J. stated in *Ultramares Corp.* v. *Touche* 174 N.E. 441, 444 (1931) the defendant should not be held liable "in an indeterminate amount for an indeterminate time to an indeterminate class."

with such considerations. In English common law the test of remoteness of damage has been used as the control mechanism which regulates the extent to which economic loss may be recovered.[149] The courts should not be precluded from exercising this discretion by an express statutory provision for economic loss for the following reasons.

Even if the recoverability of economic loss was prescribed by a requirement that only those with a commercial interest in the matter may claim damages, the 'floodgates' could still be opened. Let us return to the above example in which an area of coastline has been polluted by chemicals released from a coastal plant. In addition to commercial fishermen, those who operate pleasure cruises could equally claim a commercial interest in the matter. Once claims are admitted by those who rely on tourism the floodgates are thrown wide. Shops, restaurants, hotels, bus companies, taxi firms etc. could all argue that their businesses have been affected. Liability of this type would make it extremely difficult to calculate risk and could have an adverse effect on the availability of insurance.[150]

There is also a more fundamental objection to such an approach. One should not lose sight of the fact that the primary objective of a civil liability regime should be the protection of the environment rather than the commercial interests which vest in it. Economic loss reflects the economic analysis of law in which the value of a natural resource vests in its commercial usage rather than its role in the ecosystem.

It may, however, be advisable to make specific provision for the recovery of clean up costs incurred by organizations afforded standing under any regime. Given the fact that the object of the exercise in environmental remediation, it seems entirely reasonable to allow for the recovery of such costs.[151]

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[149] See Dias, R.W.M., "Remoteness of Liability and Legal Policy" [1962] *Cambridge Law Journal* 178.

[150] There is some suggestion (Cane 1996) that the courts have restricted recovery of damages in respect of economic loss for negligent mis-statement, the 'high water mark' of which was *Anns* v. *Merton London Borough Council* [1978] A.C. 728, partly in response to the insurance implications. In *Caparo* v. *Dickman* [1989] Q.B. 653, in which the class of persons to whom one may be liable for negligent mis-statement was limited, Bingham and Taylor LJJ, at pp. 688-9 and 703 respectively, referred to the fact that their decision should not affect the availability of insurance for company auditors. In *Smith* v. *Bush* [1990] 1 AC 831, at pp. 858-9 Lord Griffiths considered that the availability of insurance was relevant to the issue of whether a valuer should be liable to the purchaser of a property. See Cane, P. (1996), *Tort Law and Economic Interests* (2nd edn.), Clarendon Press, at pp. 423-424.

[151] Recall that, whereas in the Netherlands such costs would be regarded as losses flowing from harm to the interests of an environmental pressure group, in the UK they would probably be regarded as economic loss; see Betlem, G., "Standing for Ecosystems - Going Dutch" [1995] *Cambridge Law Journal* 153, at p. 166-67. This is also the position adopted under the International Convention on Civil Liability for Oil Pollution Damage (1969) Article 1(7).

6.4.4 The Availability of Injunctive Relief

An issue which has yet to be addressed, in the context of environmental protection, concerns the fact that the rationale for granting injunctive relief differs from when it is granted to protect private interests. As regards the protection of private interests, it will be recalled that an increasingly popular view of the role of injunctions stems from the economic analysis of law outlined in Chapter 4. To recap, the theory provides that injunctions should not be viewed as a once and for all prohibition against the continuance of an activity, rather, they should be regarded as an instruction to the parties to bargain[152]. Thus, according to this view, the injunction serves to prevent a polluter from interfering with a persons use and enjoyment of his property without first attempting to negotiate an easement. This analysis appeals to economists in that the injunction serves to channel the land use decision to the market[153] which they regard as being a more accurate indicator of land use preferences than the courts[154]. However, it is also recognized that, in certain circumstances, the granting of an injunction may not have the effect of inducing the parties to bargain[155]. In such circumstances it is argued that the court should award damages in lieu thus compulsorily purchasing the right to pollute[156].

This analysis of the purpose of injunctive relief would clearly not apply where the power to grant injunctive relief forms part of a system which has at its core the objective of environmental protection. Awarding damages in lieu, whether to an environmental pressure group or a private individual, would eviscerate the purpose of the environmental liability regime. As stated in chapter 2, the main problem with awarding damages in lieu of an injunction is that, although they may compensate the individual for the interference with his private rights, they do not benefit the environment. Thus, when seeking injunctive relief under any instrument designed to implement an environmental liability regime (such as an Environmental Liability Act intended to implement an EC Directive) it would be important for the court to understand that the primary purpose of the action would be environmental protection

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[152] See, for example, Cooter and Ulen, op. cit., at p. 176: Veljanovski, op. cit., at pp. 229-230: Cane, P, op. cit., at pp. 54-55.

[153] See Landes and Posner, op. cit., at p. 31.

[154] Ibid. See also Ogus, A.I., and Richardson, G.M., "Economics and the Environment", (1977) 36 *Cambridge Law Journal* 284, p. 321, "[O]ne important respect in which the court may fail to achieve efficiency is in its jealous preference for an injunction over damages."

[155] This may occur in circumstances where there are many parties involved in that it would be impractical for the polluter to reach a different settlement with each individual; see Cooter and Ulen, op. cit., at p. 171.

[156] Landes and Posner, op. cit., p. 31: Cooter and Ulen, op. cit., p. 176: Calabresi, G., and Melamed, D.A., "Property Rules, Liability Rules, and Inalienability: Our view of the Cathedral", (1972) 85 *Harvard Law Review* 1089.

and not the protection of the private property rights of the plaintiff. Thus it would be necessary for the courts to take a restrictive view of their discretion to award damages in lieu. As noted above, this is the approach which has been adopted in the Netherlands.

7. FINANCIAL PROVISION FOR EXTENDED CIVIL LIABILITY

7.1 General Considerations

As stated in chapter 4, it is not realistic to consider the role of tort in isolation from insurance. Thus, the insurance implications of extended civil liability for environmental damage have featured both in Member State initiatives and European Proposals.

In addition certain proposals contemplate the use of complementary compensation funds to finance environmental clean up where costs cannot be recovered through tort and insurance.

7.2 Developments in Member States

The German Environmental Liability Act (*UmweltHG*) makes provision for compulsory insurance under section 19, however, this part of the Act has yet to be activated. This is because the German insurance industry has been slow to develop policies capable of meeting the additional liabilities imposed by the Act[157]. Nevertheless, the market has now begun to develop. After some hesitation[158], the industry has decided to exclude pollution cover from general liability policies whilst simultaneously offering new Environmental Impairment Liability (EIL) policies.[159] These policies differ somewhat from their counterparts in the UK. Whereas UK EIL policies contain 'claims made' triggers to avoid the problem of 'long tail' risks[160], the German version comprises 'manifestation' triggers: "The insurance case is the first discovery of bodily injury or material damage by the injured party or a third party or by

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157 See Hoffman, W.C., "Germany's New Environmental Liability Act: Strict Liability for Facilities Causing Pollution", (1991) 38 *Netherlands International Law Review* 27, at p. 39.
158 Ibid., at p. 40-41. For a time the industry was unsure whether to adapt existing general liability policies or to entirely exclude cover and offer new stand alone EIL policies.
159 See Woltereck, R., "New Environmental Impairment Liability Policy Introduced into the German Insurance Market" [1994] 5 *International Insurance Law Review* 202, at p. 203. The industry has stated that cover will only be offered to the 100,000 plants subject to the *UmweltHG* under new conditions.
160 See ch. 4, above.

the policyholder."[161] This does not preclude the possibility of exposure to long tail risks; thus, it seems that the industry is confident that detailed site surveys can reduce this risk to manageable proportions. This corresponds with the findings of Holmes and Broughton who, it will be recalled[162], argue that, those UK insurers who chose to continue providing pollution cover under public liability policies, can reduce exposure to long tail risks by introducing EIL type site surveys. In addition, the German EIL policies provide limited indemnity in respect of gradual pollution arising from incidents other than sudden and accidental escapes. This would include, for example, pollution caused by oil drips from a broken down machine but not emissions resulting from the normal operation of a plant. However, this type of indemnity has been capped at DM20 million.[163]

Insurance companies in certain states have endeavoured to increase capacity by forming insurance pools such as Assurpol in France[164]. By pooling resources and expertise in this manner the industry is better able to absorb unexpectedly large claims resulting from, for example, long tail risks.[165]

Certain states have adopted a horizontal approach to liability whereby costs which cannot be recovered through tort rules and insurance may be drawn from a compensation fund financed by, for example, a tax or premium on industry. In Sweden, recourse may be had to such funds where the identity of the polluter is unknown, where civil action is statute barred or where the polluter is insolvent.[166]

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161 See Woltereck, op. cit., at p. 204.
162 See ch 4., above.
163 See Woltereck, op. cit., at p. 204.
164 This has proved necessary in France due to the fact that 'claims made' triggers have been ruled illegal by the *Cour de Cassation* in the case of *Commercial Union* v. *La Mutuelle des Architectes Francais* (Unreported, 1990). This makes it difficult to insure against long tail risks. Assurpol has started introducing 'manifestation triggers' of the type introduced in Germany, however, it remains to be seen whether these will be acceptable to the courts. See Lee, R.G., and Tupper, S., "Claims-made Policies: European Occurrences" [1996] *Environmental Liability* 25; Hagopian, M., "France: Supreme Court Rules that 'Claims Made' Coverage is a Nullity" [1994] *International Journal of Insurance Law* 52.
165 Including Italy, Spain and the Netherlands. See ERM Economics (1996), "The Insurance Sector", in, *Economic Aspects of Liability and Joint Compensation Systems for Remedying Environmental Damage*, European Commission DGXII.
166 Environment Protection Act (1969:387), sections 65-68; Ordinance (1989:365) on Environmental Damage Insurance. Contributions to the fund are calculated upon the basis of the size of the enterprise (in terms of numbers of employees) and the nature of its activity.

7.3 European Initiatives

7.3.1 Lugano Convention

Article 12 of the Convention requires operators to take part in a compulsory financial security scheme to cover the costs of liability incurred under the Convention. This does not amount to compulsory insurance in that it allows for alternative mechanisms. The Article is rather vague as to the proportion of the damage costs which should be covered. It merely refers to the fact that a financial guarantee should be agreed up to a certain limit in accordance with internal law.

7.3.2 Waste Proposals

Article 11(1) of the 1991 proposal provides that the producer shall be covered by insurance or "any other financial security". Article 11(2) provides that the Commission shall study the feasibility of establishing a European compensation fund for financing clean up where it is not possible to recover costs through civil liability.

7.3.3 Discussion Documents

The 1992 Commission Green Paper recites the familiar arguments relating to the difficulties of quantifying risk and lack of capacity in the insurance market. However, as the developments reviewed above indicate, since this time the insurance industry has begun gearing up for increased environmental liability. One additional concern which the Green Paper raises is that a compulsory insurance scheme may result in insurers becoming the licensers of industrial activities[167]. This is because it would be illegal for an industry to operate in the absence of insurance. The Green Paper also proposes that there should be a simultaneous introduction of clean up funds for use where it is not possible to recover costs through liability and insurance.[168] Thus civil liability and compensation funds are envisaged as constituting two components of a unified system (a 'horizontal' approach).

The 1996 Working Paper does not refer to insurance as a component of a civil liability regime.

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[167] COM(93) 47 final, at p. 13.
[168] Ibid., p. 23, at para. 4.1.

7.4 Main Issues

The above developments give rise to two main issues, namely, whether a liability regime should introduce compulsory insurance and how liability rules, backed by insurance, should interrelate with alternative compensation mechanisms.

7.4.1 Compulsory Insurance

One of the main objections put forward against including a compulsory insurance component in a civil liability regime is that insurance companies would become licensers of industry.[169] This argument is somewhat overstated in that operators are already subject to certain forms of compulsory insurance. For example, in the UK, a chemical plant must obtain compulsory employers' liability insurance[170] and, if it wishes to deliver its products by road, compulsory motor insurance.[171] Thus, to a certain extent, the ability of an operator to trade is already dependant upon the availability of insurance.

A more convincing argument is that insurance does not always provide the best solution to the problem of financial responsibility. Faure and Hartleif[172] argue that in highly specialized and technical areas, such as nuclear power, the industry itself is best placed to assess risk and finance its own compensation fund.[173] In the shipping industry this approach has been adopted by tanker owners who have formed Protection and Indemnity Clubs to meet liabilities resulting from pollution.[174]

A further difficulty is that a compulsory insurance provision would need to specify the proportion of the damage costs which must be met by insurance. It is impossible to generalize on this issue in that it depends upon factors such as the size of the company, the nature of its business and so forth. The *Lugano* Convention recognizes this

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169 Roy Marshall of the Swiss Reinsurance Company argues: "The unavailability of compulsory insurance would in principle mean businesses must be closed. This would unacceptably shift the responsibility to police the enterprise from the public authorities to the insurance industry." See Marshall, R., "Environmental Impairment - Insurance Perspectives", (1994) 3(2/3) *Review of European Community and International Environmental Law* 153, at p. 158.

170 Employers' Liability (Compulsory Insurance) Act 1969.

171 Road Traffic Act 1988 (sections 143 and 145).

172 Faure, M.G., and Hartleif, T., "Compensation Funds versus Liability and Insurance for Remedying Environmental Damage", (1996) 5(4) *Review of European Community and International Environmental Law* 321, at p. 323.

173 See Faure, M., "Economic Models of Compensation for Damage caused by Nuclear Accidents: some Lessons for the Revision of the Paris and Vienna Conventions", (1995) *European Journal of Law and Economics* 21.

174 See Coghlin, "Protection and Indemnity Clubs", (1994) *LLoyds Maritime and Commercial Law Court* 403.

problem and states that the matter should be left to internal law. It is because of similar difficulties that Germany has yet to activate the compulsory insurance component of the *UmweltHG*. Given the number of plants covered by the Act and the technical differences between them the Bunderstag considered that it would not be reasonable to require all costs to be met through insurance. However, it is because of these very differences that the German Government has been unable to set mandatory insurance limits.[175] Due to the range of variable factors involved, the scope of the policy is a matter which should be negotiated between the insurer and the insured. In other words, insurers need flexibility to adapt policies to the circumstances of a particular site.

Provided liability is not imposed in a manner which gives rise to open ended costs, industry and insurance companies are capable of devising financial security mechanisms without compulsory insurance.

7.4.2 Relationship Between Liability Insurance and Compensation Funds

As noted in chapter 4, the insurance industry has made it clear that it would not be prepared to provide cover in respect of retroactive liability for historic pollution. Those Member States which have already introduced liability regimes have precluded retroactive liability and the EC has now dismissed the possibility unequivocally. This form of damage is beyond the reach of tort and must be dealt with by alternative solutions such as a compensation fund financed by, for example, a tax on industry. However, the Green Paper also contemplates the use of such funds prospectively to fund clean up where it is not possible to establish liability in tort. It envisages a single regime comprising both systems in a single package (horizontal liability).

It is misleading to link tort with compensation funds in this manner. They are entirely separate mechanisms in that tort maintains corrective functions, whereas, compensation funds constitute a purely distributional device.[176] Furthermore, it is by no means certain that compensation funds would overcome the difficulties which impede the plaintiff from establishing liability in tort. As regards contemporary damage, it could be argued that the main advantage of a compensation fund is that it would overcome the problem of causal uncertainty. However, as Faure[177] points out, this would not necessarily be the case. For example, it may prove difficult to establish

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175 See Woltereck, op. cit., at p. 203.
176 It will be recalled that Weinrib makes this distinction. See ch. 4, above.
177 See Faure and Hartleif, op. cit., and Faure, M. (1996), "Economic Aspects of Environmental Liability: an Introduction", (1996) 4 *European Review of Private Law* 85, at pp. 102-104.

that the harm was caused by the particular activity which the fund was designed to cover. This problem would be particularly acute in the case of radiation where it may be impossible to ascertain whether harm was caused by the nuclear industry or naturally occurring radon gas.

A further possible argument in favour of the use of compensation funds in place of liability rules is that they would allow for interim payments to be made to effect immediate clean up whereas civil litigation is a lengthy process. This does not take into account the fact that litigation normally occurs *after* the clean up has already been completed. Thus, in *Middleton* v. *Wiggins*,[178] for example, in which a house was destroyed by an explosion caused by a build up of methane gas which leached from a landfill, the property owner was indemnified under the terms of his household insurance, his insurers then pursued the insurers of the waste company through subrogation.[179]

Thus, clean up funds should only be introduced as part of a separate system for use in circumstances where there is no prospect of the polluter being successfully pursued through civil proceedings.

8. CONCLUSIONS

The proposals discussed above are consistent with the aims of the EC identified in the previous Chapter. For example, strict liability, relaxation of the burden of proof on causality and the concept of channelling liability facilitate the application of the polluter pays principle. This also demands the provision of adequate remedies which focus on the environmental cost rather than the loss suffered by the individual. However, the objective of the polluter pays principle must be balanced against the need to ensure that liability remains sustainable; imposing liabilities which cannot be met is counter-productive. Polluters must be in a position to limit the costs which are passed to their insurers, otherwise, insurers will withdraw cover for environmental damage as demonstrated by the experience in the United States. Although strict liability increases the insurance component of liability, it does not lead to unsustainable liability in that it affords operators an opportunity to limit the costs

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178 [1996] Env. L.R. 17.

179 Most indemnity policies contain an indemnity clause which entitles the insurer to enforce the legal rights of the insured in the name of the insured. Thus an insurer who has indemnified an insured may seek to recover the amount from the insurers of the party considered to be responsible for the loss. For a statement of the general principle see, for example, *Morris* v. *Ford Motor Co.* [1973] Q.B. 792, per Lord Blackburn.

passed to their insurers by the introduction of abatement technology. In contrast, costs resulting from historic pollution cannot be internalised by modifications in production processes with the result that the entire costs must be met by the insurers. Similarly, the need to establish a causal link between the activity and the harm must be retained; if this is removed, the polluter becomes liable to a potentially open-ended class of persons which again gives rise to unsustainable liability. The system adopted in Germany avoids this outcome in that it does not dispense with the need to establish a strong possibility of a causal link, it merely provides a framework for drawing a common sense conclusion without the need to establish a causal link with scientific certainty.

The proposals are also consistent with the view that the EC considers that civil liability may provide an additional means of enforcing its overall environmental objectives. Of particular note in this respect is the fact that there is increasing support for affording standing to NGOs, such as environmental pressure groups and conservation organisations, to seek injunctive relief. Given the fact that the primary concern of such organizations is the prevention of ecological damage and given that EC standards would be relevant in determining when such damage has occurred, the effect of such a proposal would be to provide an important role for private individuals and especially NGOs in the enforcement of Community policy.

Chapter 7

Conclusion

1. IINTRODUCTION

The purpose of this research has been to establish the role of tort as a component in a system of environmental protection. Much of the current debate regarding the European initiatives has failed to address this basic issue and has merely focused on the detail of specific proposals. However, unless one understands the fundamental nature of tort and the wider arguments concerning its proper function in a modern society, it is impossible to fully appreciate how it should operate in an environmental context. By setting the European initiatives and developments in Member States against the background of these wider issues, it has been possible to shed light on this issue. This enables one to draw certain conclusions regarding the philosophical basis of tort had how this might define its use in environmental protection.

2. THE PHILOSOPHICAL BASIS OF TORT

One of the main objections to the use of tort as a means of environmental protection has been the assertion that, as a private dispute resolution mechanism, it is conceptually difficult to harness tort in pursuit of public interest objectives such as environmental protection.[1] However, when one examines the philosophical basis of tort and its historical development it soon becomes apparent that this is an over simplification.

To recap, the early development of common law was firmly rooted in the protection of private interests in land. Its function was entirely corrective in that it served to restore an interest of which the plaintiff had been wrongfully disseised.[2] A nuisance was regarded as a misappropriation of an inalienable property right rather than an annoyance or irritation. However, during the course of the nineteenth century the courts began to impute distributional functions into the common law. The view emerged that it was no longer realistic to consider property rights in isolation from social preferences regarding land use.[3] Thus, from this time tort has been concerned

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[1] This view is encapsulated by the Union of Industrial and Employers Confederations of Europe: "Civil liability law protects individuals and, for that reason, civil liability is not suited to compensate damage resulting from activities harmful to the environment as a common good. Only public law can determine what measures the public authorities should take in order to restore the environment as a common good," See UNICE, *Position paper on the fundamental options in the Green Paper on remedying environmental damage*, 20 July 1993, Brussels, (written submissions presented to joint EC Commission and European Public Hearing on 'Preventing and Remedying Environmental Damage, Brussels 3 - 4 November 1993) 20 July 1993, Brussels.

[2] Maitland, F.W. *The Forms of Action at Common Law: A Course of Lectures*. Edited by A.H. Clayton and W.J. Whittaker (1936 edn.) Cambridge University Press.

[3] Mclaren, J.P.S., "Nuisance Law and the Industrial Revolution: Some Lessons from Social History",

with whether a particular land use is reasonable. To this end liability under English common law has been made contingent upon certain additional considerations including the character of the neighbourhood[4] and whether an activity constitutes an unnatural use of land.[5]

Thus, it is clear that from the nineteenth century onwards the law of tort has sought to balance private interests against public interests. Esser explained this duality upon the basis of the Aristotelian distinction between corrective and distributive justice.[6] Whereas corrective justice focuses on the wrong suffered by the plaintiff and the need to restore the *status quo ante*, distributional justice aims to allocate the loss to the party which is in the best position to internalize it. This has given rise to conceptual difficulties in that the two concepts at first seem incompatible. In the twentieth century academics have been exercised by the problems of how to ground tort in a philosophical basis which enables it to fulfil both functions simultaneously. Englard's application of the theory of complementarity to the problem provides an elegant explanation of how two seemingly contradictory functions can form part of a harmonious totality.[7] In his view it is possible for a single legal rule to embody both objectives.

The attraction of Englard's approach is that it is possible to apply it to existing tort rules which are relevant in an environmental context. The character of the neighbourhood test, for example, serves distributional functions in that it adjusts the threshold of damage in accordance with the predominant land use in an area. However, it retains corrective functions in that harm which exceeds this threshold remains actionable.

It is therefore, possible to identify a conceptual basis which would justify adapting tort rules in pursuit of a public interest objective such as environmental protection. However, the issue of whether there is a need to develop tort in this way is, of course, another matter.

(1983) *Oxford Journal of Legal Studies* 155

[4] *St. Helens Smelting* v. Tipping (1865) H.L.C. 642.

[5] *Rylands* v. *Fletcher* (1866) L.R. 1 Ex. 265.

[6] Esser, J., (1941) *Grundlagen und Entwicklung der Gefährdungshaftung*, München/Berlin.

[7] Englard, I. (1995), "The Idea of Complementarity as a Philosophical Basis for Pluralism in Tort Law", in D.G. Owen (ed.), *Philosophical Foundations of Tort Law*, Clarendon/Oxford; and (1993), *The Philosophy of Tort Law*, Blackstone, ch. 5.

3. THE ROLE OF TORT IN AN ENVIRONMENTAL CONTEXT

The major potential benefit of tort in an environmental context is that it would afford private individuals and bodies the opportunity to take part in the policing of the environment. If private interests were assimilated more closely with environmental interests, a polluting incident could give rise to substantial civil liability in addition to regulatory penalties.[8] This may have the added advantage of requiring the polluter to internalize a greater proportion of the total damage costs.[9] A paradigmatic case study is provided by the Anglers Co-operative Association's success in pursuing the polluters of rivers.[10] This potential application of tort is becoming the focus of EC initiatives on the subject.

At first there was no clear rationale for EC intervention in the field of civil liability for environmental damage. The proposal for a Directive on Civil Liability for Damage Caused by Waste was presented as an internal market measure[11]. It has since become apparent that there is insufficient evidence to suggest that divergent civil liability regimes would lead to distortion of competition in the internal market[12]. Thus, in recent years, taking into account the need to satisfy the requirement of subsidiarity[13], the Commission has sought to firmly root civil liability initiatives in EC environmental policy. To this end recent statements and policy documents have sought to closely assimilate civil liability with existing legislation. It seems that civil liability is viewed as a means of providing an additional enforcement mechanism which would underpin regulatory standards.[14] This is consistent with the Commission's desire to involve private individuals and bodies in the policing of environmental standards.[15]

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[8] This is already the case where a regulation also make provision for civil in addition to criminal liability. See, for example, Nuclear Installations Act 1965, section 12.

[9] Recall that, following the Shell Mersey Estuary Oil spill of 1989, Shell was fined £1m which, up to that point, was the largest penalty ever imposed for environmental impairment. However, clean up costs amounted to £1.4m and property damage amounted to £2.1m. See Holmes, R., and Broughton, M., "Insurance Cover for Damage to the Environment", (1995) 9513 *Estates Gazette* 123.

[10] Bate, R., "Water Pollution Prevention: a Nuisance Approach", (1994) 14(3) *Economic Affairs* 13.

[11] (1991) OJ No. C 192/6.

[12] See Ulph, A., (1996), "Impacts of Environmental Liability Systems on the Competitiveness of Industry", in ERM Economics Report, *Economic Aspects of Liability and Joint Compensation Systems for Remedying Environmental Damage*, European Commission DGXI, Brussels.

[13] Article 5 EC (formerly Article 3b).

[14] See in particular *Working Paper on Environmental Liability* (17 November 1997), Commission of the European Communities DGXI, Brussels.

[15] Communication from the Commission of the European Communities, *Implementing Community Environmental Policy*, COM(96) 500 final, Brussels, 22.10.1996.

However, it is important for tort to retain a degree of independence from regulation. As the case of *Blue Circle Industries Plc* v. *Ministry of Defence*[16] demonstrates, regulatory standards can provide a useful guide as to whether damage has occurred in cases of doubt. In this case it will be recalled that contaminated soil had to be removed because radiation levels exceeded statutory limits, not because there was necessarily a threat to health. Nevertheless, compliance with such standards should not be regarded as conclusive evidence of harm. The court should retain some discretion to protect private interests in cases where standards set by authorities are inadequate[17]. Whilst tort should be considered as a means of increasing general private participation in environmental protection it should not be inextricably linked with regulatory standards. Compliance with regulatory standards should continue to be regarded as being of evidential importance.

A potential drawback of tort as a means of environmental protection is that insufficient numbers of actions would be instigated to have any major deterrent effect. However, individual judgments in high profile matters can attract a great deal of publicity which may result in exemplary deterrence.[18] Furthermore, a test case can open the way for a multitude of similar claims. This frequently occurs in industrial diseases cases whereby, following a successful representative action, the defendant may agree to settle similar claims out of court.[19] Thus had Elizabeth Reay and Vivien Hope been successful their action against British Nuclear Fuels Ltd (BNFL)[20] it is likely that BNFL would have been compelled to settle other claims brought by the offspring of Sellafield employees.

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16 [1997] 1 Env. L.R. 341.

17 Cane points out that the common law can supplement regulatory standards set by, for example, the planning system: "Although it [the tort of nuisance]cannot overturn the work of the planning system, it can be used to control the detailed use of permitted developments which the planning system does not, on the whole regulate; and it may provide some remedy for the results of planning mistakes," See Cane, P., (1996), *Tort Law and Economic Interests*, Clarendon Press/Oxford, at p. 392. However, the ability of nuisance to fulfil this function has been seriously undermined by the decision in Gillingham Borough *Council* v. *Medway (Chatham) Dock Ltd* [1993] QB 343 in which a single planning consent was found to be capable of altering the character of the neighbourhood.

18 Schwarz points out that liability following the Exxon Valdez oil spill was settled according to the common law of negligence. This amounted to an astonishing US$ 9 billion; the second largest claim in US legal history. See Schwarze, R., "The role of common law in environmental policy: Comment", (1996) 89 *Public Choice* 201.

19 A recent example includes litigation arising out of a condition known as 'whitefinger' arising from the prolonged use of pneumatic drills in mines. See *Armstrong* v. *British Coal*, *The Times*, December 6, 1996.

20 *Reay and Hope* v. *British Nuclear Fuels Plc* [1994] Env. L.R. 320.

4. THE LIMITS OF TORT

Clearly no system of environmental regulation can rely entirely upon one mechanism. The environmental problem comprises a multitude of issues which range from localized problems to matters of global importance. Liability in tort mainly operates at a local or regional level as it is triggered by specific incidents. Thus tort is suited to dealing with the consequences of accidental escapes or spillages of noxious substances. This type of harm accounts for a significant proportion of total environmental damage costs.[21] However, tort cannot provide a solution to wider environmental problems which result from the manner in which economies have been managed in the past. A case in point concerns the saga of historic pollution.

It is unfortunate that tort has become embroiled in the debate regarding contaminated land. If one accepts the pluralistic view of tort advocated by Englard,[22] it is clear that tort rules constantly have to balance corrective and distributional functions. In the case of contaminated land it is impossible to achieve a balance. Where pollution has already occurred, in circumstances where it would not have given rise to tortious liability at the time, tort cannot have any deterrent effect. In such circumstances it must serve as a purely distributional device which allocates responsibility; as Atkinson argues, in the context of contaminated land, there is "a fundamental inconsistency of the goals of deterrence and compensation which the two seek to achieve".[23] Tort has historically governed conduct in accordance with the social values and expectations of the time. It is inappropriate to use it in respect of problems from the past when different standards applied. In this respect tort should not be confused with a system such as CERCLA in the United States which is an arbitrary means of loss allocation. The mere fact that CERCLA includes a mechanism for recovering costs through civil liability does not mean that it can be equated with tort.

The insurance implications of increased environmental liability cannot be excluded from consideration of the limits of tort. Although few judges have attached as much weight as Lord Denning to the existence of insurance when attributing liability[24], insurance has undoubtedly affected the development of tort. Thus, the availability of insurance must have a bearing on the decision to proceed with an environmental

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21 Estimates supplied by German Insurance brokers show that accidental escapes account for 8-12% of total environmental damage costs. See ERM Economics, op. cit., at p. 41.
22 Op. cit.
23 Atkinson, N., "The Regulatory Lacuna: Waste Disposal and the Clean up of Contaminated Sites," (1991) 3 *Journal of Environmental Law* 265, at p. 277.
24 See, for example, *Nettleship* v. *Weston* [1971] 2 Q.B. 691.

liability regime. Insurers have made it clear that, following the experience in the United States, they would not be prepared to provide cover in respect of historic pollution. However, provided they are permitted to draft policies which do not leave them exposed to open ended costs, they are prepared to insure against current and future pollution. The availability of insurance will very much depend upon the domestic insurance laws of Member States. The legality of 'claims made' triggers in the UK[25] and 'manifestation triggers' in Germany[26] has been instrumental in the development of Environmental Impairment (EIL) liability.[27] In those countries where such terms have been ruled illegal insurers have spread the burden by pooling resources. Furthermore, as Holmes and Broughton point out, there is no reason why insurers should not continue to provide pollution cover under standard occurrence based public liability policies subject to more detailed risk assessments and increased premiums.[28]

It should be noted that these developments have occurred without the introduction of compulsory insurance. In fact compulsory insurance is likely to prove a hindrance to the development of insurance in this field due to its inflexibility. It is impossible to set blanket limits on the percentage of damage costs which should be met by insurers due to the range of variable factors involved.[29] The parties must be left free to determine their own insurance arrangements according to considerations such as the nature of the activity, the size of the enterprise and so forth.

5. PROPOSALS FOR INCREASING THE ROLE OF TORT

Although tort has the potential to fulfil a useful role as a component in a system of environmental protection, as the analysis in chapter 3 demonstrates, at present its use is limited by obstacles to establishing liability (transaction costs). These include the need to establish fault in certain cases, causation, limited standing and limited remedies. Such difficulties face any plaintiff wishing to pursue an action in tort, however, they are particularly acute where environmental damage is concerned. The technical nature of many polluting processes means that it may be difficult to establish

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[25] See Lee, R.G., and Tupper, S., "Claims-made Policies: European Occurrences" [1996] *Environmental Liability* 25.
[26] See Woltereck, R., "New Environmental Impairment Policy Introduced into the German Insurance Market" [1994] 5 *International Insurance Law Review* 203.
[27] It will be recalled that these triggers enable the insurer to fix the period of cover more precisely than the usual occurrence triggers.
[28] See Holmes, R., and Broughton, M., "Insurance Cover for Damage to the Environment", (1995) 9513 *Estates Gazette* 123.
[29] See Woltereck, R., op. cit.

fault. The disperse nature of certain forms of pollution and the complex manner in which it inter-acts with the environment creates difficulties in establishing causation. Furthermore, standing is limited to those whose private interests have been directly affected and remedies reflect private loss as opposed to environmental impairment.

These problems demonstrate that, at present, the English law of tort is characterized by corrective functions. Before tort can fulfil a useful role the focus must be moved from the protection of private interests to the protection of the environment. In other words, if the concepts of corrective and distributive justice are envisaged at two extremes of a sliding scale, there is a need to move tort closer to the distributive end of the spectrum. Of course, if tort is moved to the extreme distributional end of the scale it loses all correctional functions and is converted into an arbitrary means of loss allocation. Therefore, in drafting proposals designed to harness tort in pursuit of environmental objectives, it is necessary to balance distributive and corrective functions in the manner advocated by Englard in his theory of complementarity.[30] The principle means of reducing transaction costs in tort, which were discussed in chapter 6, have the capacity to accommodate both objectives.

Strict liability increases the proportion of the damage costs which must be met by the polluter. However, it retains corrective functions in that it allows for defences; this preserves an element of individual accountability and affords the polluter the opportunity to internalize costs. This is where strict liability differs from absolute liability which is a purely distributional device. Thus it is entirely reasonable to include defences in respect of phenomena which were entirely beyond the control of the plaintiff such as *force majeure*. As stated in chapter 6, the development risk defence raises more complex issues in that it relates to the manner in which the defendant conducted his activities. The defence could provide an incentive to review procedures in accordance with the state of the art. This is provided that the onus remains on the defendant to show that the knowledge was not discoverable by the industrial sector in which he operates.

As regards causation, as the experience in the United States demonstrates[31], an unduly lax application of causality tests leads to collective responsibility[32]. The

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[30] Op. cit.

[31] Huber, P., "Environmental Hazards and Liability Law", in Litan, R.E., and Winston, C., (eds.), *Liability Perspectives and Policy* (1988) The Brookings Institution, at pp. 147-148.

[32] Teubner, G, 'The Invisible Cupola: From Causal to Collective Attribution in Ecological Liability', in Teubner, G., Farmer, L., and Murphy, D., (eds.), *Environmental Law and Ecological Responsibility - The Concept and Practice of Ecological Self-Organization* (1994) John Wiley & Sons, at p. 29.

approach adopted under the German Environmental Liability Act 1991 (*UmweltHG*) demonstrates how it is possible to increase the distributional effect of tort whilst retaining corrective functions. A provision of this type could enable the court to reach a common sense decision, based upon the circumstances of the case, without the need to establish a causal link with scientific certainty.[33] This accords more closely with the requirements of the precautionary principle[34] than the rigorous causality tests applied under English common law. Furthermore it increases the proportion of the damage costs which must be borne by the polluter in accordance with the polluter pays principle.[35] In this sense relieving the burden of causality in this way embraces the distributional aspects of EC environmental policy; however, the fact that there must be circumstantial evidence pointing to a particular plant before the presumption can be invoked retains a strong element of corrective justice.

Increased standing for environmental interest groups would also be an essential ingredient of any civil liability regime. The fact that liability in tort is contingent upon harm to private interests which vest in natural resources fetters the use of tort as a means of protecting the so-called 'un-owned environment'. This raises certain conceptual and philosophical difficulties. Stone argued that the environment should be regarded as having a form of legal personality which environmental interest groups should be capable of representing as a form of guardian *ad litem*.[36] This approach seemed to receive some support from the dissenting judgment of Douglas J. in the US case of *Sierra Club* v. *Morton*[37]. An alternative approach, which may be easier to justify according to existing legal principles, has been adopted by the Dutch Courts in the cases of *Kuunders*[38] and *Borcea*.[39] In these decisions, it will be recalled, the courts viewed environmental interest groups as representing the public interest in the protection of natural resources.

Closely associated with this idea is the concept that the remedies awarded by the court, under an environmental liability regime, should reflect the need to protect the

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[33] It will be recalled that this is provided that the presumption is not automatically rebutted by the existence of an alternative substance which is capable of causing the harm in synergy with the alleged cause. See Hager, G., "Umwelthaftungsgetz: The New German Environmental Liability Law" [1993] *Environmental Liability* 41, at p. 42.
[34] See Article 174 EC (formerly 130r).
[35] Ibid.
[36] Stone, C., "Should Trees Have Standing? - Towards Legal Rights for Natural Objects", (1972) *Southern California Law Review* 450.
[37] 405 US 727, 31 L. Ed 2d 636 (1972).
[38] Supreme Court 18 December 1992, *Nederlandse Jurisprudentie* 1994, 139. See Chapter 6 at 4.2.
[39] District Court Rotterdam 15 March 1991, (1992) Netherlands Yearbook of International Law (NYIL) 513. See Chapter 6 at 4.2.

environment as a separate entity from the private interests which vest in it. This would necessitate a general presumption in favour of injunctive relief. In chapter 4 it was argued that injunctions are more effective than damages in requiring the polluter to internalize a greater proportion of the pollution costs associated with an activity. Whereas there is no guarantee that damages will be applied to remedying environmental damage, the court may attach conditions to injunctions which stipulate abatement or remediation measures. These may be adjusted to take account of technical feasibility; as McLaren[40] states, it is only in extreme circumstances that an enterprise would be forced to close as a result of an injunction. Thus, by allowing activities to continue whilst simultaneously reducing pollution levels, the remedy embodies both corrective and distributive functions in accordance with the pluralistic view of tort. An approach which favours an award of damages in lieu of an injunction invites an economic approach in which the polluter is allowed to compulsorily purchase the right to pollute.

Where it is necessary to make an award of damages, the quantum should be calculated upon the basis of the cost of restoring the environment as close as possible to its former state. An approach which places undue emphasis upon restoring a natural resource for a specific use prices the resource according to narrow economic criteria. This renders the resource vulnerable to becoming the subject of market transactions.[41]

Proposals of this type develop two important ideas. Firstly, strict liability and easing the burden of proof on causation increase the accountability of polluters and give rise to duties to protect the environment. Secondly, increased standing and the application of remedies which reflect environmental damage, as opposed to private loss, allow these duties to be enforced by private individuals and bodies. In this sense an environmental liability regime could be instrumental in bringing about a re-evaluation of the relationship between property rights and the environment.

6. CONCLUSION - TOWARDS AN IDEA OF ENVIRONMENTAL RIGHTS?

As Macpherson[42] explains, ownership of a resource once carried with it duties to use the resource in a certain manner. The dominance of the market has distilled the concept of property to those rights which are tradable, namely the tangible resource

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40 McLaren, J.P.S., "Nuisance Actions and the Environmental Battle", (1972) 10(3) *Osgoode Hall Law Journal* 505, at p. 557.
41 See Steele, J., "Remedies and Remediation: Foundation Issues in Environmental Liability", (1995) 58(5) *Modern Law Review* 615.
42 Macpherson, "Human Rights as Property Rights" (1977) 24 *Dissent* 72.

itself and the right to exclude others from it. Thus the view of property which has predominated since the eighteenth century confers rights on the owners and duties on all others, namely the obligation to respect the owner's right to exclusive possession. According to this narrow view of property ownership confers rights on the owner but no duties; such a system is open to abuse in that it enables the owner to transfer the costs of his activity to third parties. This gives rise to the externality problem of which pollution is a classic example. As Bromley argues:

> "[T]he concentration of rights in the hands of a few individuals is not of immediate concern in a political sense. What matters is the fear that economic power deriving from this concentration may be put to antisocial uses."[43]

However, Bromley also points out that the lawyer's typical "bundle of sticks" conception of ownership, in which rights include the right to possess, manage, benefit, secure and alienate in varying degrees, does not denote absolute control.[44] Control varies according to the extent to which the state permits the owner to disregard the space of others in exercising those rights. This aspect of ownership can be regarded as a privilege rather than an absolute right. As the state maintains the system of property it is in a position to alter the structure so as to restrict the use of such privileges.

> "For the state to do nothing is to protect those who currently have rights and privileges; to enter the fray in some form of collective action to modify institutional arrangements is to act in the interest of those currently bearing unwanted costs."[45]

He continues that such a reappraisal of the function of property is inevitable as resources are depleted and new scientific knowledge on causality reveals the extent to which the unfettered right to exclusive possession imposes costs on others:

> "As technology advances, and as population pressure continues to increase densities of urbanized areas, we will find new ways to impose unwanted costs on others. New knowledge also contributes in that its allows us to establish cause and effect with more certainty. In the absence of sophisticated scientific evidence many phenomena were simply accepted as part of life. Once we possess the ability to establish definite causality, the matter is thrown into the legislative or judicial

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43 Bromley, D.W. (1991), *Environment and Economy*, Blackwell, at p. 160.
44 Ibid.
45 Ibid., at p. 163.

> arenas. The ultimate outcome of that process is surely a further redefinition of the rights and duties that go with land."[46]

A civil liability regime for environmental damage may contribute to such a redefinition by linking property rights with duties enforceable by others. This would be the next logical step in a process upon which the EC has already embarked.

It will be recalled that the ECJ has begun to develop the idea that environmental Directives may confer rights on individuals. In *Commission of the European Communities* v. *Federal Republic of Germany*[47], Germany was brought before the ECJ for failing to transpose certain directives designed to limit sulphur dioxide emissions. The German Government argued that it was already in compliance with the Directives in that levels of sulphur dioxide emissions were not in excess of the limits set by the Directives. The ECJ rejected this argument on the grounds that *de facto* compliance would not suffice; each Member State must put in place a legal framework which is sufficiently clear, precise and transparent to enable individuals to ascertain their rights and obligations[48]. However, it was not clear how such a right could be enforced. As Macrory argued:

> "Lawyers traditionally characterize trade freedom as a classical individual right, which should be equivalent to familiar rights of property, and capable of legal protection as such. In contrast, environmental concerns are viewed in law not so much as an aspect of individual freedom or entitlement but rather as an interest which restricts the freedom of what people may or may not do. As such it is an area appropriate for intervention by government but cannot readily be conceived of as a right directly enforceable before the courts in the same way as the freedom to trade."[49]

Gray[50] considers that *Francovich*[51] can provide one avenue for enforcing an environmental right against a Member State:

> "The European Court has come close to conceding the existence of an individual right to the effective and structured management of the eco-system on behalf of all citizens. Taken in conjunction with the Francovich ruling, the stance of the Court in *Commission of the*

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46 Ibid., at p. 167-168.
47 Joint Cases C-361/88, [1991] ECR 1-2567 and C-59/89, [1991] ECR 1-2607.
48 [1991] ECR 1-2567, 2601.
49 Macrory, R., "Environmental Citizenship and the Law: Repairing the European Road" (1996) 8 *Journal of Environmental Law* 219, at p. 232.
50 Gray, K., "Equitable Property", (1994) *Current Legal Problems* 157
51 *Francovich* v. *Italian Republic*, Cases C-6/90 and 9/90 [1993] 2 C.M.L.R. 66.

> *European Communities* v. *Federal Republic of Germany* seems to recognize something which looks awfully like a right in the citizen to demand the proper and conscientious administration of a public trust in which he is regarded as having enforceable rights of a beneficial character." [52]

However, as pointed out in chapter 5, the *Francovich* decision is very limited in scope. The introduction of a civil liability regime for environmental damage would facilitate a more far-reaching system of enforceable environmental rights. The effect of such a regime would be to confer a form of equitable property in ecological resources upon each member of society in the manner advocated by Gray. Clearly, many of these interests may be diffuse and impossible to quantify; for example, if every passer by who was irritated by fumes from a factory were to be afforded standing to pursue the matter before the courts the floodgates would be opened and liability would become unsustainable[53]. However, in such circumstances, the collective interests of the community would be aggregated by means of affording standing to non-governmental organizations. Such representative actions would amount to an assertion of the collective proprietary interests of society in safeguarding the environmental media concerned. This approach reflects the reasoning of Douglas J. in the *Sierra Club* v. *Morton*[54] and the Dutch Courts in *Kuunders*[55] and *Borcea*[56].

Thus in conclusion, development of a more effective system of civil liability for environmental damage is significant. It recognises that each member of society has a stake in the environment. Landowners will increasingly be forced to the view that possessory title to land is not merely a matter of what they *may do* with their property but also what they *may not* do with it. Thus an environmental liability regime, of the type envisaged by the EC, may bring us full circle and restore the idea that ownership of land carries with it both rights *and* responsibilities.

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[52] Op. cit., at p. 206.
[53] Lord Goff was clearly aware of this problem in *Hunter* v. *Canary Wharf Ltd* [1997] 2 W.L.R. 684. where he objected extending standing to those without a proprietary interest in property: "[T]he extension of the tort in this way would transform it from a tort to land into a tort to the person, in which damages could be recovered in respect of something less serious than personal injury and the criteria for liability were founded not upon negligence but upon striking a balance between the interests of neighbours in the use of their land. This is, in my opinion, not an acceptable way in which to develop the law," per Lord Goff at p. 696F-G.
[54] 405 US 727, 31 L. Ed 2d 636 (1972).
[55] Supreme Court 18 December 1992, *Nederlandse Jurisprudentie* 1994, 139. See Chapter 6 at 4.2.
[56] District Court Rotterdam 15 March 1991, (1992) Netherlands Yearbook of International Law (NYIL) 513. See Chapter 6 at 4.2.

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