THE INVENTION OF THE ENVIRONMENT
AS A LEGAL SUBJECT

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DECLARATION

This work has not previously been submitted for a degree or diploma in any university. To the best of my knowledge and belief, the thesis contains no material published or written by another person except where due reference is made in the thesis itself.

The thesis research has been the subject of fourteen conference papers, presented at conferences in Australia and internationally. In addition, material from the following chapters of the thesis has been peer reviewed and published as indicated below:

- Chapters One, Two, Four and Six - Goodie (2003).
- Chapter Six - Goodie (2000); Goodie and Wickham (2000)*
  
  *While the argument pursued in Chapter Six reflects my contribution to that jointly authored journal article, I would like to acknowledge here the importance and influence of Dr Wickham’s ideas on the association between law and rhetoric in developing them.

- Chapters Seven and Eight - Goodie (2001).

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## CONTENTS

Abstract

Acknowledgments

### Part One

Chapter 1  Introduction  

Chapter 2  The Environment as an Object of Science and an Object of Government  

Chapter 3  Environmental Sensibility

### Part Two

Chapter 4  Governmentality

Chapter 5  Risk and Environmental Governance

### Part Three

Chapter 6  Legalising the Public Interest in the Environment

Chapter 7  Environmental Disorder, Risk and Toxic Tort

Chapter 8  Toxic Tort and the Articulation of Risk

Conclusion

References
ABSTRACT

The legal regulation of the environment is exemplary of the formation, practice and challenge of modern legal discourse and governance. The latter part of the twentieth century has seen the emergence of environmentalism and the problematisation of the environment in terms of the management of hazard and risk. The social authority of law has meant that it has been inevitably implicated in the contestation and negotiation of environmental governance. In turn, environmental governance and discourse have required a certain refiguring of legal rationality as legal discourse has been confronted by the immanent critique of environmentalism. This thesis will focus on how the environment emerged as problematic and how it came to be governed and of legal interest. Several examples of legal thinking concerning specific environmental problems are analysed, and the manner in which the environment is constructed within the legal discursive domain is examined.

Much modern knowledge and understanding regarding the environment developed in part from the specialisation of scientific discourse and experiment, which formed certain areas of expertise, including biology, ecology and toxicology. This scientific knowledge significantly contributed to governmental identification and elucidation of the environment. Modern ecology and associated technologies have facilitated the detailed mapping and auditing of physical environments, and have profoundly effected our modern appreciation of ‘the environment’ as an interdependent, dynamic and potentially
fragile web of interdependent physical zones, spaces and activities. Modern environmentalism has emerged through the application of this type of technical scientific knowledge, in combination with certain forms of ‘environmental sensibility’ which treat the environment, not as a thing, or somehow ‘out there’, but as a dynamic process of which humans are a part, which has a history, an economy, and a power to transform and be transformed. The shape of modern environmental governance has been especially influenced by the scientific and ethical critique of environmentalism that connects the origin of ecological risks to technological application and commodity production.

Throughout this thesis, specific aspects of the ‘analytics of government’ or governmentality approach derived from Foucault’s writing on governmentality are taken up. Governmentality theory is largely concerned with the contingent relationship between knowledge and power; thus, with analysing specific discourses and associated spaces within which differing knowledge and forms of thinking interrelate and resist each other. The contestation and negotiation associated with environmental governance has confronted legal discourse and led to a refiguring of legal rationality. Legal governance of the environment has stretched and unsettled legal orthodoxy, as the environment does not readily fit into any of the usual categories pertaining to legal rights and interests. The environment, as a legal subject, is not simply a physical space; it is a contingent and instrumental concept, determined by human activity, social values and legal and non-legal calculation.
Analysis in this thesis of legal governance of the environment focuses on two different modes in which law has been employed as a governmental technology to address the ‘environmental problem’. The first, is the legal recognition of environmental lobbyists, and their claim to represent the ‘public interest’ as stakeholders in the management of non-human environments. Specifically, the processes by which non-pecuniary public interests are subject to ‘pragmatic and situated’ calculation within the common law are closely examined. The second, is the extent to which the common law has assimilated the vocabulary and techniques of calculation associated with risk in the legal assessment of environmental harm and hazard in toxic tort litigation. These two examples of legal environmental governance are loosely united in that they converge on the management and control of environmental harm, both harm caused by toxic environments and harm to environments.
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Chapter One

INTRODUCTION – THE ENVIRONMENT AND THE LAW

A Problematic Space

The notion of environment is most commonly associated with nature and also with a desire (possibly including action) to preserve and protect pristine environmental spaces. However, conservation is simply one aspect of environmental concern. The ways in which humans live, work, and recreate determines what is regarded as ‘environment’ and as a matter of environmental concern. In other words, environments are defined and limited by patterns of individual and collective consumption. These patterns of consumption have placed certain environments at risk, and have created toxic environments that have become the object of ‘risk anxiety’. Conflicts concerning resource use and conservation agendas have meant that the natural environment becomes a problematic space. Resource depletion, waste and pollution stemming from urbanisation and industrialisation, have become particular matters of social and environmental concern. The systematic connection of ecosystems and a scientific appreciation of how environmental harm physically occurs have led to an appreciation of environmental degradation on a trans-national scale.

The law has engaged with various dilemmas surrounding the management of potential harm to natural environmental spaces and the appropriate response to the potential harm to humans caused by toxic environments. Environmental law
is a means of regulating the “conflict between individual rights and collective interests”, it is also focus of “a complex moral problem invoking notions of value and responsibility” (Coyle and Morrow, 2004: 109). This thesis will focus on how the environment emerged as problematic and how it came to be governed and of legal interest.

**A Conceptualisation of Government**

Throughout this thesis, specific aspects of the ‘analytics of government’ or governmentality approach derived from Foucault’s writing on governmentality are explored\(^1\). The following section comprises a brief discussion of this theoretical approach, with a more detailed explanation occurring in Chapter Four. Rutherford observes that the governmentality interpretation and understanding of government extends beyond the associated formal institutions and practice:

Foucault’s characterization of government as the conduct of conduct delineates the field of government in a very broad sense: it is a ‘massive domain’ that extends from the minutiae of individual self-reflection to the depersonalised, anonymous rationalities concerned with the regulation of states, populations and societies (1999a: 46).

This theoretical approach assumes that all governance is, “intrinsically linked to the problems around which it circulates, the failings it seeks to rectify, the ills it

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\(^1\) The literature concerned with this approach is vast and growing rapidly. In particular, see Barry, Osborne and Rose, 1996; Burchell, Gordon and Miller, 1991; Dean, 1999; Dean and Hindess, 1998; Foucault, 1991; Miller and Rose, 1990; O’Malley, 2001, 2004; Osborne, 1998; Rose, 1989, 1992, 1993, 1996; Rose and Miller, 1992.
seeks to cure” (Rose and Miller, 1992: 181). According to governmentality theory, law is not privileged, but is rather a particular form of governance that operates within certain discursive limits and simultaneously adopts parts of knowledge and agendas of other governmental rationalities, such as epidemiology or environmental impact assessment. Dean delineates the approach governmentality theory adopts in relation to law:

The key questions about law for an analytics of government do not concern its general meaning, function or role in liberal democratic societies. They concern rather, its operation within any given regime of practices, the role it is assigned within specific programmes of government, the technology it is a part of, and the forms of subject it proposes to work through or upon (1999: 118).

Governmentality theorists, such as Hunt and Wickham (1994) and O’Malley (2001), observe that programmes of governance are typically produced through the challenge and resistance of differing forms of calculation and knowledge. O’Malley argues that:

Locating such sources of difference in governance: counters the tendency to subsume government under one ascendant rationality; creates spaces in which alternative governmental forms may be identified and contests facilitated; opens up the possibilities for recognising hybridisation, adaptation and change; in short, returns to political analysis the fluidity
and contingency of relational politics without abandoning the characteristic analytics of governmentality (2001: 25).

Overall, there are two key features of a ‘society of government’. First, its focus on the dispersal of power beyond the institutional centre, which occurs through a complex matrix incorporating strategies of self-governance. Second, what Foucault terms the ‘bio-political’ focus of governance on the welfare, prosperity and security of the population, whereby the problematisation of the environment is immanent within biopolitics.

The Discursive Disposition of the Law and the Environment

The notion of discourse is mobilised throughout the thesis. The law and environment are cast as distinct, discursive domains of action or practice, which are characterised by particular modes of thinking and representation. This strategy facilitates the application of governmentality theory, but it is also employed to demonstrate how the distinctive discursive domains of law and environment interrelate. It is the engagement between these two domains, explicated within a framework of governance, which is the primary focus of the thesis. However, prior to exploring the nature of legal and environmental discourse and their interrelation it is important to consider what constitutes a discourse.
Conceptualising Discourse

In mobilising the notion of ‘discourse’, it is useful to draw upon the work of Foucault. Discourses are a product of their cultural, social and historical moment, and, “[i]n Foucault’s terms a discursive domain of reference, produces certain knowledge and makes sayable, visible and possible particular ideas, objects and practice” (Hunter, n.d., as cited in Kendal and Wickham, 1999: 38). In identifying and analysing discourses Foucault, was interested in the way that discourses “structure the possibility of what gets included and excluded and of what gets done or remains undone” (Hunt and Wickham, 1994: 8). Foucault incorporated the concept of discourse within the larger project of developing a genealogy or archaeology of the emergence of a particular subject. Hunter explains the significance of discourse for Foucault’s method:

Foucault’s reformulation of the concept of discourse derives from his attempts to provide histories of knowledge which are not histories of what men and women have thought. Foucault’s histories are not histories of ideas, opinions or influences nor are they histories of the way in which economic, political and social contexts have shaped ideas and opinions. Rather they are reconstructions of the material conditions of thought or ‘knowledges’ (Hunter, n.d.: cited in Kendall and Wickham, 1999: 35).

Although the term discourse is regularly utilised to include language, not all discourses are constructed through a linguistic narrative for they may be established through other calculable operations (Kendall and Wickham, 1999: 40). As Hunter observes, discourse is “established by the operation of diverse
spaces in which particular types of object can appear” (as cited in Kendall and Wickham, 1999: 40). Discourses produce and privilege certain beliefs, practices and ways of acting. Foucault’s contribution lies in his “characterisation of disciplinary fields in terms of unifying discourse” (Cotterrell, 1986: 10). In this way, he situated and constructed the disciplinary field for a certain form of analysis, that is, an analysis that traces the ‘conditions of possibility’ for the emergence of a discipline (Hunt and Wickham, 1994: 6-7). In other words, a discursive domain is produced through the existence of the ‘conditions of possibility’, and entails the formation of certain ideas or action.

Within this thesis the law and the environment are necessarily characterised as discourses in order to discuss and ascertain how humans think, talk and act upon the environment within a legal imagination (Hunt and Wickham, 1994). However, rather than tracing the ‘conditions of possibility’ for the emergence of a discipline, this thesis intends to analyse the simultaneous separateness and interrelatedness of the methods and practices of thinking and acting within the two distinctive discursive areas.

In addition, my task does not include a larger genealogical or archaeological project, either in terms of the law or a particular aspect of the environment. My utilisation of the term discourse in conjunction with an analysis of the law, aims to offer an interpretation of what may count as ‘law’. As will be discussed further, this reading is more expansive than the common or orthodox understanding of the law, as a ‘depersonalised rationality’ of governance. Seemingly, a characterisation of law as depersonalised focuses on the technical,
scientific public façade of law, and does not readily provide for the influence of non-legal knowledge in legal approaches to the task of social governance.

**Techniques of Discursive Domains**

Discursive domains are ‘regulated and systematic’, in that the distinguishing characteristics of a particular discursive domain “delimit what is sayable” within that domain (Kendall and Wickham, 1999: 41). However, any such attempt to appreciate the limits of a discursive domain, or to describe what comprises the domain, does not reveal an essential truth about that domain or anything within the domain. Discourses cannot be reduced to an underlying inherent truth or system of thought. Kendall and Wickham observe that, “[w]e cannot go beyond this discursive ‘surface’ to a ‘deeper inside’ of ‘thought’: the surface is all there is” (1999: 37).

Within a discursive domain, the operations of ways of thinking or rationality are better described as techniques rather than as conduits to some form of truth. A truth is an idea or calculation that has meaning and resonance within a particular discursive domain (Laster, 2001: 220). Thinking is a material process, and is fragmented or limited by the currency of knowledge employed and by the techniques available (Kendall and Wickham, 1999: 35). As Hunter further states, “[t]hinking is whatever we call thinking” (as cited in Kendall and Wickham, 1999: 37). Foucault argues that ‘truth’ is the product of competing truths, or rather the process by which certain truths are disseminated, endorsed and acted upon while other truths are simultaneously discredited, silenced or ignored (Hunt and Wickham, 1994: 11).
Philosopher Ian Hacking assumes the challenge of explaining the intertwined nature of thinking, reasoning and truth, and observes:

[S]tyles of reasoning are curiously self-authenticating. A proposition can be assessed as true-or-false only when there is some style of reasoning and investigation that helps determine its truth value. What the proposition means depends upon the ways in which we might settle its truth. That innocent observation verges nervously on circularity. We cannot justify the style as the way best to discover the truth of the proposition, because the sense of the proposition itself depends upon the style of reasoning by which its truth is settled. A style of thinking, it seems, cannot be straightforwardly wrong, once it has achieved a status by which it fixes the sense of what it investigates (1990: 7).

This thesis analyses several examples of legal thinking on specific environmental problems in an effort to uncover some ways in which the environment is constructed within the legal discursive domain. As Kendall and Wickham remind us this is a task that involves more than simply recognising that legal discourse inevitably takes up and functions through ‘things’ that sometimes resemble ‘things’ involved in the operation of environmental discourse (1999: 38). Here I am assuming that “the systematic character of discourse includes its systematic articulation with other discourses” (Henriques, cited in Kendall and Wickham, 1999: 41). Thus, the thesis considers how each discursive domain, labeled the ‘legal’ and the ‘environmental’, has articulated or delimited the assumptions and assertions that can be made about the other.
Legal Discourse

The domain of legal discourse is produced and qualified by a range of institutions, including courts and the legal profession, academe, law critics and reformers. The most visible expressions of opinions, practices and values derive from judgments, case-law, legislation, reform agendas, texts, academic commentary and curricula. In a sense, these comprise the ‘law’. Like all discourses, legal discourse is driven by measures of conflict and consensus. However, at its core remains the pre-eminence of the rule of law and the rational legal actor who enjoys a range of civil, political and proprietorial rights.

Laster observes that “like all disciplines, law has reified its own conventions and disciplinary modes of thought” (2001: 219). She argues that the law has established itself as a discipline through the assertion of distinctly legal forms of thinking and practice. The rationality that conceives, organises and implements legal ideas is, by repute, depersonalised and necessarily distanced (Rutherford, 1999a: 46). For example, the common law’s credibility as technique for resolving disputes depends upon the impartial application of accepted rules and precedents. Similarly, the authority of the judiciary is founded on techniques and traditions which insist upon judicial independence, and commitment to a reasoned and impartial decision-making process.

The adherence of legal actors to this ideal of a depersonalised legal rationality is one of the discursive conditions that delimits the ambit of modern Western legal discourse. However, whilst not disputing that the reputation of the law is dependent upon it being one of the ‘depersonalised rationalities’ of the state, I
suggest that such a description of law is rather limiting. It characterises the law as an institution that is somewhat uncontentious, or that exists beyond the influence, and outside of the values, prejudices and styles of thinking of non-legal discourse. It also fails to acknowledge that the law may function through and be understood as having various modes and purposes. For instance, the law could be thought about in terms of its ideological agency, acknowledged as a barometer of social values and anxieties, or considered simply as machinery that is part of a greater governmental infrastructure. Rather than thinking about the law in terms of its broader ideological frame, function, potential or symbolic value, a depersonalised understanding of the law focuses more upon its technical legal character. Cotterrell observes:

It is interesting, however, that when the components of legal reasoning are isolated there appears to be little which is truly distinctive about them. The techniques of practical reasoning, modes of interpretation, organisation of problem-solving, etc, which are involved appear not fundamentally different from those frequently encountered in what are considered non-legal contexts (1986: 15-16).

Although understanding of the law may be partly conditioned by its ‘reified’ projection and by idealising it as a ‘depersonalised rationality’ of modern governance, compartmentalized into established doctrines with clearly defined parameters, the actual practice of the law is, in fact increasingly open to outside influence. While maintenance of its reputation may demand that law be thought of in these terms, the law is certainly less than rational, orderly, detached or
impartial. In reflecting upon the process of legal education, the late John Fleming, a significant commentator on the law of tort, noted:

[T]he more meticulous the attention given to a court's wrestling with a concrete problem, the more sceptical we grow of the mechanistic theory of judicial adjudication. It becomes obvious that there are influential factors other than the mere application of verbal formulae which shape conclusions, that precedents are only guide posts or 'starting points' of legal reasoning, that the 'agony of decision' is constantly present, ... the law of torts ... lacks a basis of uniform and accepted judicial theory and, instead, abounds with indeterminate, frequently divergent, legal concepts that cannot provide inevitable answers (Fleming, 1956 cited in Cane, 1998: 219).

In sum, legal discourse is not clear-cut, nor closed. Arguably, it is very much subject to the influence of non-legal discourse, as will be demonstrated by considering the legal governance of the environment.

**A Legal Perception of the Environment**

Coyle and Morrow make a distinction between laws “which suggest a concern with the intrinsic value of their objects and rules which are connected with their objects only instrumentally” (Coyle and Morrow, 2004: 2). They say that environmental law is generally cast in the latter category, commenting that:
Environmental law is depicted as essentially a modern response to problems raised by contemporary living. It is characterized as a set of policy-driven, statutory limitations on the exercise of private entitlements, and the law is seen as regarding the natural environment as being worthy of protection only instrumentally, rather than as an end in itself (Coyle and Morrow, 2004: 2).

They argue however that this characterisation of environmental law fails to understand its qualities as well as the processes by which bodies of law take shape (2004: 130). Their exploration of the foundations of modern environmental law is undertaken through an analysis of the provenance of property law, particularly the doctrine of nuisance. While the law of property is not a particular focus of this thesis, their analysis reveals much about the manner in which legal discourse, particularly the common law, has taken up the environmental problem. Coyle and Morrow argue that while utilitarian values have played their part in shaping the common law’s engagement with environmental issues, the common law moved beyond instrumentalism in its recognition of the collective social interest in the environment. They contend that although judicial language is resistant to articulating general principles in response to environmental problems, the common law nevertheless evidences an approach in which property rights are viewed as, “inherently rather than merely instrumentally, subject to wider social interests of a broadly environmental kind” (2004: 130, original emphasis). Their analysis recognises that there is an ‘undeniable unevenness in the approach of the law of nuisance to environmental problems’ (2004: 124), largely because the law of nuisance dealt with an ad hoc collection of localized environmental problems.
and was in no position to consider the wide ranging consequences of pollution (2004: 121). Nevertheless, their survey of the case law demonstrates that rather than the private rights of property and broader social interest in the environment simply being in conflict in the late modern period, environmental factors have often been the context within which property rights have been shaped (2004: 130).

This thesis does not attempt to determine whether environmental law is primarily a pragmatic attempt to balance private rights and collective interests, or an expression of the legal claim of environment in its own right. Indeed contemporary environmental law reflects both approaches. Further, there is no doubt that with the turn of the twenty-first century the environment has become an identifiable legal subject. The focus throughout the thesis is thus on exploring how the environment shifted from being an object of incidental legal attention to becoming a legal subject; the object of a body of law about which the following sort of comment can be made:

We believe modern environmental law can be presented as a coherent doctrinal whole, which must be seen as a complex and highly distinctive historical product (Coyle and Morrow, 2004: 7).

Legal governance of the environment has stretched and unsettled legal orthodoxy, as the environment does not readily fit into any of the usual categories pertaining to legal rights and interests. The environment, as a legal subject, is not simply a physical space; it is a contingent and instrumental
concept, determined by human activity, social values and legal and non-legal calculation. The natural environment is also more than simply the object of instrumental body of law. It is constructed by legal and non-legal discourse as, potentially at least, “being worthy of protection … as an end in itself” (Coyle & Morrow, 2004: 2; Stone, 1988).

**Environmental Governance, Environmentalism and Ecology**

The domain of environmental governance is broad. There are numerous differing environments that comprise the focus of social and legal interest, and our appreciation of these environments is inevitably influenced by a range of social, political and economic concerns (Ramsay and Rowe, 1999: 9-12). Environmental governance has focused on the maintenance of environmental amenity, the management of environmental hazard, the conservation of aesthetics and the recognition and protection of heritage. The factors motivating it are diverse and include the maintenance of public health, the maximization of limited resources, the containment of risk, and the preservation of simple sensual and spiritual pleasure which attaches to the physical environment. In turn, the object and form of environmental governance has been shaped by a confluence of knowledge and politics. As Hunt and Wickham observe, “[k]nowledge is used to select objects for governance and knowledge is used in the actual instances of governance” (1994: 87).

Our modern appreciation of the environment and of its bounded and finite qualities is largely dependent upon the emergence of ecological science. This has enabled the moulding and instigation of new techniques for measuring,
describing, regulating, experiencing and acting upon the environment (Beck, 1992b; McMichael, 2001; Rutherford, 1999a, 1999b, 2000). This scientific knowledge combined with other generated knowledges, such as those of the social sciences, has led to certain problematisations of the environment. The application of the ecological method, informs a way of seeing or searching, which has constituted a range of previously unknown hazards that are directly attributable to the technological and industrial innovation of modern life (Rutherford, 1999b: 104).

Environmentalism, which emerged in the latter part of the twentieth century and has been a dominant political force in determining the shape of modern environmental governance, has also been underwritten by ecological science. This is notwithstanding the fact, as Rutherford taking up Yearley (1992) argues, that “the very epistemological and sociological nature of scientific knowledge production conspires to make such reliance highly problematic, unstable and contested” (Rutherford, 1999b: 101). However, as with the general problematisation of the environment, environmentalism is also informed and driven by values and knowledge that are not scientific. Contemporary environmentalism embraces two distinct rationalities:

[N]amely, a highly rationalized scientific ecology and a romantic, moral cultural attitude towards nature. … The ‘cultural code’ of modern western society consists of both these discourses, so that the history of modernity, including the social relation to nature, is to be understood as the product
of the interrelationship between these two cultural discourses (Rutherford, 1999b: 101-102).

While environmentalism depends upon the techniques and understandings of ecological science to identify and map environmental risks, it simultaneously insists upon and attempts to initiate forms of environmental governance that challenge the perceived benefits of scientific and technological progress, and economic expansion. Late twentieth century environmentalism proposes a scientific and ethical critique that, “recognizes uncertainty, holism, interconnectedness, synergies and complexity” (Havemann, 2003, 20); and connects the origin of ecological risks to technological application and commodity production (Beck, 1992a, 1992b; Havemann, 2003; Rutherford, 1999b).

**Disclosing the ‘Risk’ Environment**

Rose and Miller observe that governmental or political rationalities are “characteristically moral, epistemological and idiomatic” (1992: 178-179). Rutherford takes up this explanation, and argues that modern environmental governance and its functional idiom are informed by the moral agendas and discourse of ecological ethics, and by the economic model of scientific ecology (1999b: 116). It is a complex matrix; ecological ethics a product of the tension between “questions of justice and equity” (1999b: 116) and the utilitarian objectives of “highly rationalized, often technocratic, scientific expertise” (1999b: 115). Risk analyst, Aynsley Kellow, also argues that:
Environmental issues inevitably entail questions of both morality and practicality. The very notion of ‘pollution’ is culturally dependent; it is a moral category which predates the environmental era, and environmental pollution derives from wider notions of pollution. Similarly risk and hazard are subjective qualities. There is no objective scientific basis for public policy in general and environmental policy in particular (1999: 12).

Rutherford suggests that ‘risk’ has become an idiom through which the environment is made ‘thinkable’ and “amenable to political deliberations”, and is one that sustains the moral, highly rationalised and technical aspects of contemporary understandings of the environment (1999b: 116). He argues that:

the relationship of society to the natural environment is conceived in terms of the language of security and risk; ecological hazards and insecurity must be addressed by putting in place behaviours that minimize risk (Rutherford, 1999b: 116).

The ‘risk’ idiom produces its own form of bio-political and bio-economic reality, and also the emergence of a particular governance that is shaped by certain preferred governmental techniques. Sociological theorist, Ulrich Beck, who is readily identified by his ‘risk society’ thesis of the transformative impact of risk on late modernity, observes that:
risks open the opportunity to document statistical consequences that at first were always personalized and shifted onto individuals. In this way risk de-individualizes. Risks are revealed as systematic events, which are accordingly in need of general political regulation. … A field for corresponding political action is opened up: accidents on the job for instance, are not blamed on those whose health they have already ruined anyway, but are stripped of their individual origin and related instead to the plant organization, the lack of precautions, and so on (1999: 51).

In various ways, modern environmental governance is shaped by ‘risk calculations’. For instance, key principles of environmental governance, such as ‘ecologically sustainable development’ and the ‘precautionary principle’, are understood through risk calculation techniques. These operate to limit risk to the environment as well as risk from environmental harm. Thus, the ‘risk’ idiom is the product of a complex of rationalities and techniques, from the scientific and economic through to the anti-materialism of ecologism. Beck argues that while the production of risks is the result of scientific and technological expansion, understandings of risk are shaped not only by recognised scientific expertise but also by the ‘counter-expertise’ of citizen activists and ecologists who have developed a sustained critique of the application of technology and the potential devastation of the environment (1992b: 56-7).

The emergence of counter expertise and the significance of environmental lobby groups, such as the Australian Conservation Foundation, will be discussed further as this thesis progresses; Chapter Two explores the environment as an
object of governance, and Chapter Six considers the environment as an object of ‘public interest’.

The Environment and Legal Governance

Just as no single entity can be designated as the environment, the body of law and policy concerning the environment, which may be labelled ‘Environmental Law’, is also broad and diverse. Environmental law is not simply an invention of the court, the legislature or the law reform commission. Environmental law is constantly being shaped and transformed by actors and agencies beyond those sites regularly associated with the formation of law. It is influenced profoundly by patterns of consumption, developments in technology and non-legal understandings of ‘the environment’, and attitudes to ‘the environment’. This thesis does not attempt to develop a grand theoretical account of environmental law, nor to explicate or analyse a substantive area of environmental law. Rather, it considers ‘how’ certain debates and dilemmas involving the environment have become the concern of law and the subject of legal governance.

In so doing my discussion focuses on how the environment emerged as problematic, how it has come to be understood, and how it is governed by law. As already indicated governmentality theorists’ accounts of the character of modern governance are pertinent to an examination of how the environment has become a subject of legal governance. Rose and Miller’s influential essay developing and applying governmentality theory argues that all governance is “intrinsically linked to the problems around which it circulates, the failings it seeks to rectify, the ills it seeks to cure” (1992: 181). Legal governance of the
environment operates within certain discursive limits, such as established common law doctrine, and simultaneously adopts knowledges and agendas of other governmental rationalities, such as epidemiology or the precautionary principle. Dean delineates the approach governmentality theory adopts in relation to law:

The key questions about law for an analytics of government do not concern its general meaning, function or role in liberal democratic societies. They concern rather, its operation within any given regime of practices, the role it is assigned within specific programmes of government, the technology it is a part of, and the forms of subject it proposes to work through or upon (1999: 18).

In this thesis analysis of legal governance of the environment focuses on two different modes in which law has been employed as a governmental technology to address the ‘environmental problem’. The first is the legal recognition of environmental lobbyists, and their claim to represent the ‘public interest’ as stakeholders in the management of non-human environments. In this respect, the processes by which non-pecuniary public interests are subject to ‘pragmatic and situated’ calculation within the common law are closely examined. The second is the extent to which the common law has assimilated the vocabulary and techniques of calculation associated with risk in the legal assessment of environmental harm and hazard in toxic tort litigation.
These two examples of legal environmental governance are loosely united in that they converge on the management and control of environmental harm, both harm caused by toxic environments and harm to environments. An analysis of harm caused by toxic environments requires a consideration of the involvement of law in the auditing and analysis of environmental harm, and also the litigious response to certain failures in effectively regulating harm. An account of the recognition of ‘public interest’ in protecting against environmental harm is concerned with the unsettled orthodox assumptions about the typical functions of law that characterise the environmental legal subject.

Rose and Miller argue that modern governance tends to be, “morally coloured, grounded upon knowledge, and made thinkable through language” (1992: 179). This observation is at the conceptual heart of this thesis. The two examples of legal environmental governance identified above both embody these epistemological, moral and idiomatic characteristics, but to varying degrees.

Public interest litigation patently exhibits all three characteristics of modern governance, that is, the moral, epistemological and idiomatic. The courts shy away from explicitly acknowledging that public interest litigation is setting any moral agenda for common law. Nevertheless, the various attempts to have public interest in environmental governance recognised by common law, as an issue that justifies judicial review, are part of a contest to identify what ‘ideals and principles’ should inform legal governance. Public interest litigation also highlights Rose and Miller’s suggestion that the authority of environmental governance relies upon specific forms of knowledge and epistemological
constructions of the environment. In addition, the pragmatic and rhetorical mode through which ‘public interest’ questions are identified and assessed demonstrates how idiom informs understanding and allows the revelation of ‘truths’.

The litigious response to environmental hazard reflects upon the moral aspect of the legal governance of risk. Toxic tort litigation is a modern variant of the common law action in negligence. It has certain instrumental effects, such as compensating for loss, deterring harmful conduct and furthering “certain desirable social goals” (Cane, 1997: 24). However, toxic tort actions are also moral encounters, and are, according to legal theorist Peter Cane (1997), ‘co-relative’. They involve a contest between plaintiff and defendant, in which the ‘responsibilities and obligations’ of the defendant are assessed relative to the ‘rights’ of the plaintiff. The determined outcome of the contest is based upon, “a system of ethical rules and principles of personal responsibility and freedom” (Cane, 1997: 27).

Although the legal idiom is expected to be dispassionate, toxic tort litigation is resolved within a discourse influenced by collective emotion as much as it is by instrumental calculation. The trial of a toxic tort claim depends on first hand witness accounts of their exposure and subjective understanding of the risks faced, as much as on an ‘objective’ body of expert testimony supporting the ‘at risk’ claim of the plaintiff. Personalised accounts of risk and the affects of toxic exposure are highly persuasive when appropriately considered alongside other more dispassionate evidence. In Chapters Seven and Eight the thesis explores the
dynamic of this interaction, that is, between the dispassionate, technological legal expert and the subjective, often emotive lay witness by considering how the litigation adopts and adapts four heterogeneous notions of risk: the insurantial, the scientific, the clinical, and the everyday or common sense.

The traditional epistemological basis of ‘risk governance’, as dispassionate actuarial assessment, is undertaken at the population level, rather than at the individual level. However, the legal governance of risk also reflects the neo-liberal tendencies of modern governance in shifting, where possible, the responsibility for risk-taking to the individual (Dean, 1999: 206). Toxic tort litigation necessarily entails a consideration of risk at the population level and a consideration of the conduct and moral responsibility of the individual plaintiff and defendant. This involves the recognition of risk and responsibility formed at the population level and within the more intimate processes of self-governance. Beck (1992a) argues that contemporary modernity is characterized by ‘risk’ as a source of anxiety and as a condition of politics. The manner by which legal discourse has acquired and constructed four distinct idioms of ‘risk’, is explored through a discussion of influential ‘risk theories’ and through a consideration of various conceptions of risk in toxic tort litigation.

**Structure of the Thesis**

There are three parts to this thesis. In Part One (Chapters Two and Three), the emergence of the concept of ‘the environment’ is explored. In Chapter Two it is examined in terms of its construction as an object of science and then government. Chapter Three considers how the physical and spatial governmental
object of the environment became the focus of certain forms of appreciation or sensibility through activities as diverse as exploration, tourism, walking, gardening, painting, photography and literature.

Part Two (Chapters Four and Five) examines in some detail theoretical concepts which inform the thesis discussion of how the environment shifted from being an object of incidental legal attention to becoming a legal subject. Chapter Four comprises a discussion of the governmentality approach and its relevance to an examination of law, in particular, why the law is discussed throughout the thesis as a ‘technique of governance’. The governmentality approach actively highlights the way that law problematises shapes and constitutes the conduct, sites and populations that it attempts to govern. The environment as a legal subject is partially revealed by reflecting upon the nexus between the conceptualization of risk and the legal domain in terms of the adjudication of disputes involving potential environmental harm or toxic environmental hazards. In Chapter Five, two competing understandings of risk are discussed and compared. The first is the sociological theory of the ‘risk society’ propounded by Ulrich Beck which treats risk as the ontological reality of late modernity. The second, is typical of those working within a governmentality framework. Unlike Beck’s ‘risk society’ thesis, the governmentality approach does not posit risk as real, rather it is a product of certain forms of thinking and calculation. Aspects of each, particularly the governmentality approach, are taken up in the thesis’s examination of the calculations and contingency which characterise legal governance of the environment.
Part Three (Chapters Six, Seven and Eight) comprises an examination of two different modes in which the common law has been employed as a governmental technology to address the ‘environmental problem’. As indicated, these two examples of legal environmental governance are loosely united in that they converge on the management and control of environmental harm, both harm caused by toxic environments and harm to environments. Legal recognition of environmental lobbyists and their claim to represent the ‘public interest’ as stakeholders in the management of non-human environments is relatively recent. In Chapter Six the process by which the non-pecuniary public interest in the environment has been subject to ‘pragmatic and situated’ calculation within the common law is examined. Chapters Seven and Eight consider the extent to which the common law has assimilated the vocabulary and techniques of calculation associated with risk in the legal assessment of environmental harm and hazard in toxic tort litigation.
Introduction

The natural world first became an object of scientific discourse during the seventeenth and eighteenth centuries and then an object of governmental regulation during the early-nineteenth century. A conceptualisation and understanding of the natural world initially developed through a particular scientific based ‘culture of inquiry’. Taylor observes that during the late-seventeenth and early-eighteenth centuries a passion for the science of natural history evolved that:

was to extend far beyond the study of living species and well into the nineteenth century, forming, as it were a ‘culture’ of inquiry that was to influence a broad range of fields, from art and antiquarianism to architecture and gardening. It provided so to speak, a universal language for ordering form; taxonomical methods occupied minds on both sides of the English Channel and accompanied European colonial exploits abroad as a way of cataloguing potentially useful discoveries (2004: 24).

However, much modern knowledge and understanding regarding the environment developed from the specialisation of scientific discourse and
experiment, which formed certain areas of expertise, including biology, ecology and toxicology. These areas also significantly contributed to governmental identification and elucidation of the environment. For instance, the emergence of governmental recognition and consideration of the physical space, wherein humans work and live, as a separate entity or object, and the facilitation of increasingly focussed governmental interpretations and engagement with ‘the environment’ (Rutherford, 1999a, 1999b, 2000). Lewi and Wickham observe that the human sciences have been vital to modern governmental understandings and developments:

These bodies of formal knowledge or sciences, institutionalised in a variety of settings in especially the nineteenth and twentieth centuries, including universities, government agencies, specialist private institutes and industry, provided more and more detail for government about humans and their societies. For example, economics built pictures of homo economicus, psychology of different human relations, sociology of rational and irrational collective behaviour and organization, biology of human bodies, law of typical and atypical legal subjects, etc. Governments used and continue to use these human science ‘pictures’ to govern more and more aspects of human life (1996: 55).

In addition, the conceptualisation and application of early-eighteenth century scientific modes of thinking, in conjunction with economic development and increased productivity, led to the emergence of previously unconsidered connections and new problems regarding the management of ‘the environment’
(Rutherford, 1999a: 42). During the nineteenth century, the notion of ‘population’ was especially vital to the advent of environmental problematisations and governmental initiatives (Dean, 1999: 100; Rutherford, 2000: 113-117). In combination, this inquiry has undoubtedly informed what we now recognise as ‘the environment’. This chapter identifies those scientific developments that have shaped our understanding of this entity called ‘the environment’, outlines certain trajectories of the modern life sciences, explores how these scientific developments have shaped the emergence of governmental interest and considers the shape of contemporary environmental governance.

**Historical Overview – Scientific Elicitation of the Natural**

During the seventeenth and eighteenth centuries scientific inquiry favoured reductionism and empirical observation as its main techniques of inquiry and through these the external world came to be understood as a “machine-like entity subject to disaggregation” (McMichael, 2001: 160). In this context, ‘the environment’ entered scientific discourse as a series of forces or elements that influenced or controlled societal groupings and activities, and as such required a semblance of control in return. As Taylor states:

> Following Christian Huygens's invention of the regulator spiral in 1675, the regulator watch became a common model for imagining the immutability of nature by which a number of disciplines from physiology to economics and politics were posed in abstract terms involving the conservation of matter and the equilibrium of forces. Just as the force of life was no longer thought to come from the divine or supernatural being,
neither was it yet thought to be dependent on the spaces that enclosed living species … What was clear inside the glass spheres and vacuum pumps popular with seventeenth and eighteenth century scientists was not how respiration, perspiration or other physiological operations worked together or how an animal might benefit from sharing the same space as a plant. Rather, what was obvious was that nature formed an economy of forces and living creatures were controlled by it (2004: 27).

In the mid-nineteenth century modern biology displaced the authoritative classical natural history and introduced inquiry into the functional link between organisms and their external surroundings. Rutherford observes that, “The classical view of a timeless continuity of nature was replaced by a concept of life in which species were understood as discontinuous entities shaped by the evolutionary influence of the environment” (2000: 115). For some scientists, such as Spencer, this biological view and interpretation of the world was reflective of the competitive, hierarchical culture of nineteenth century Western Europe. The ‘survival of the fittest’ depended upon the dominance of ‘nature’ by humans. For other scientists, such as Darwin, nineteenth century biology revealed an increasingly complex natural world that humans were inextricably connected to rather than able to control (McMichael, 2001: 20).

Our modern appreciation of the environment, as a bounded and finite entity, is largely dependent upon the emergence of ecological science. This has framed and instituted new techniques for measuring, describing, regulating, experiencing and acting upon the environment (Beck, 1992b; McMichael, 2001; Rutherford,
In particular, McMichael argues that ecological thinking is ‘subversive’ as it synthesizes the knowledge of the chemical and physical sciences:

> It embraces the complex interplay between animate and inanimate components; it studies dynamic, non-equilibrial and non-linear processes. … To an ecologist the world is neither deterministic nor randomly unpredictable; rather, it is a world of contingent probabilities within mutually adapted, self-ordering systems (2001: 21-22).

Such scientific knowledge in combination with other knowledges, especially from the social sciences, has led to certain problematisations of the environment, notably, the extent of human dependence upon and the limitations of human capacity to control the natural world (McMichael, 2001: 21).

**The Revolution of Scientific Discourse and Practice**

The enlightenment born ‘new science’ rejected natural world philosophical explanations and focused upon the active scientific experience of phenomena in a laboratory, which aimed to test or demonstrate scientific theories through experiment (Laudan, 2003). The observational techniques underpinning such experiment became increasingly sophisticated following the invention and apt

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1 For instance, trans-national matters of economic and political injustice, such as environmental degradation, pollution and risk, are dependent upon the interface between new politics of globalisation, a theory the social sciences developed and adopted in western liberal political exchange; and certain scientific knowledges, including the systematic connection of ecosystems and an appreciation of how environmental harm physically occurs.
utilisation of various tools, including the microscope, telescope, composite lenses, pendulum and airpump (Laudan, 2003).

In addition, a principal objective of scientific societies, such as the Royal Society of London established in 1660, involved actively seeking and producing experiment based scientific knowledge. In considering the history of scientific institutions, Pyenson and Sheets-Pyenson argue that scientific societies were formed to facilitate and promote active engagement with science as a practical art and technology. By the mid-seventeenth century, the culture of scientific inquiry into the natural world, “ceased to be solitary and introspective; it became shared and communal” (1999: 74). The scientific societies became a “vital instrument for formulating and transmitting scientific norms and values” (Pyenson and Sheets-Pyenson, 1999: 75).

Although the scientific societies concentrated on the production of scientific knowledge, their underlying concern regarded the grand purpose of this knowledge. Bacon, the great polemicist for the new scientific project, described the formation of scientific societies as essential in delineating “the knowledge of causes, and the secret motions of things; and the enlarging of the bounds of Human Empire, to the effecting of all things possible” (as cited in Pyenson and Sheets-Pyenson, 1999: 77). Indeed, the nation states of Europe recognised and supported the ambitions and work of the scientific societies due to their perceived embodiment of “the forces of rational enlightenment, progress, and modernization” (Pyenson and Sheets-Pyenson, 1999: 93).
The progression of the ‘new science’ was in part facilitated by the mercantile expansion of seventeenth and eighteenth century Europe, which allowed the ready transmission of correspondence, documents, details, observations and reports between individuals and societies of similar scientific mind (Pyenson and Sheets-Pyenson, 1999: 88-90). By the nineteenth century, the life sciences had developed and expanded to the point that scientists began forming professional disciplinary associations and working in specialist research laboratories. This enabled scientists to increasingly focus upon specific scientific disciplines, such as biology (Pyenson and Sheets-Pyenson, 1999: 97).

**Biology – Disclosing the Environment**

Boughey contends that modern biological science can be distinguished from “the largely observational and anecdotal study of natural history” by the breadth and depth of its focus and its method (1971: 3). The specialist discipline of biology partly emerged through the “progressive extension of experimentation”, which facilitated “the manipulation of nature in controlled settings” (Laudan, 2003). Although that is not to say that biological science followed a simple unified pattern of development, its trajectory was more complex. Biology has antecedents in a wide and disparate field of “research traditions and practices”; encompassing midwifery, medicine, forestry, agriculture, biotechnology, geography, breeding, collecting, experiment, field work, voyages of exploration, dissection, and taxonomy (Pancaldi 2003). Within biological science, unlike the physical sciences, old research practices more readily continued alongside new approaches to research (Pancaldi, 2003). Nevertheless, the emergence of the life sciences and biological discipline comprised various features that impacted upon
the calculation, description and understanding applied to the environment, in terms of the explanation or problematisation of nature.

Colonial expansion in the seventeenth and eighteenth century into previously scientifically uncharted environments facilitated the development of biological knowledge. By the late eighteenth century, following the successes of Cook and Banks’ voyage to the South Pacific, “a mania for scientific exploring” developed (Pyenson and Sheets-Pyenson, 1999: 254-255), as exemplified by the Prussian polymath Alexander von Humboldt, who became famous for his lengthy and far-reaching expeditions and the breadth of his scientific interest. Humboldt collected 6300 new plant specimens in one, albeit very long, tour of the Americas between 1798 and 1804 (Pyenson and Sheets-Pyenson, 1999: 259-260). In addition, as a phytogeographer, Humboldt inspired an alternate way of perceiving or analysing nature through his writing and example. Through the view of Humboldt and other scientists discrete natural environments became visible. Humboldt not only collected numerous specimens on expeditions, he also categorised them according to the type of environment in which they were found. Significantly, Humboldt “divided the globe into discrete vegetation zones” and observed the similarities in plant species found in equivalent environmental or vegetation zones (Cittadino, 2003)

During the nineteenth century, Darwin and others followed Humboldt’s lead and passion for phytogeographical inquiry and further explored, described and divided those zones. Accordingly, by the close of the nineteenth century there was “a rich collection of observations and descriptions” as well as “a growing
vocabulary of phytogeographical terms” (Cittadino, 2003). This new vocabulary and contextual catalogue of exotic organisms laid the foundation for an increasingly sophisticated appreciation of the natural world, as a complex of discrete yet interconnected ‘environments’ (Cittadino, 2003). Thus, the nineteenth century phytogeographers provided the inspiration for the emergence of the modern ecology discipline, which focussed upon the systematic “study of populations and communities as a whole in relation to one another and to the environment” (Boughey 1971: 5).

In addition, during the second half of the nineteenth century, previous scientific understandings of nature were transformed. Schleiden’s work on plant cells and Schwann’s work on animal cells led to ‘the cell’ being classified as the fundamental unit of life (Pancaldi, 2003). From the laboratories of Koch, Pasteur and Lister came a new understanding of the involvement of microscopic forms of life “in the processes of putrefaction and disease” (Mendelsohn, 2003). Darwin’s theory of evolution and likewise Mendel’s observations on the inherited characteristics of organisms were formulated and published; however, the significance of these ideas remained largely unacknowledged until the early twentieth century (Pancaldi, 2003).

Modern biological science was further influenced by the technological capacities of the nineteenth century scientist, including the improved compound microscope and the conducting of chemical analysis, which allowed more proximate and detailed observation of organisms and their constituent parts (Pancaldi, 2003). Also, innovations in methods and techniques allowed the dissection of cells, and
the cultivation, manipulation and representation of micro-organisms. Koch and Petrie’s use of a flat dish containing a stable medium of gelatine or agar-agar enabled the isolation of microscopic species and identification of pathological effect through scanning. Koch utilised this method, now known as ‘solid-media culture’, to isolate and identify the microscopic organisms which cause tuberculosis and cholera (Mendelsohn, 2003). Mendelsohn observes that, “[f]rom its earliest dramatic achievements, bacteriology was an icon of triumph of technical skill and experimental discipline over speculation and superstition” (2003). McMichael notes that this had ramifications for the significance endowed to ‘the environment’, or at least the urban environment (2001). In trumping miasmic theory, bacteriology reassigned focus away from the wider environment and upon individuals as the site of identifiable toxic exposure. Consequently, particular microbiological agents were linked to the onset of various diseases rather than the vaguer pathogenic environment, which required general cleansing. As suggested, “[i]t was now the details of the foreground rather than the larger constructs in the background that commanded attention” (McMichael, 2001: 163).

Whilst microbiologists, such as Koch and Pasteur, effectively entrenched the reductionist focus and method of scientific positivism, their significant experimental breakthroughs also expanded the breadth and depth of biological understanding and have been an impetus for further scientific specialisation (McMichael, 2001: 163). Two specialisations have particularly influenced our understanding of the environment; the first being ecology and the second being molecular biology.
Ecology – The Diverse Connected Environment

The ecological concepts which emerged in the late nineteenth century were contingent upon the discoveries of the biological and physical sciences and geography. In part, the specialist field of ecology developed in reaction to the reductive focus of science, but nevertheless employed the laboratory methods that had typified the life sciences (Bramwell, 1989; McMichael, 2001). Specifically, Bramwell argues that ecology, and its associated ethic, developed as a response to the perceived scientific and utilitarian ‘anti-naturism’. Through her comprehensive survey of nineteenth and twentieth century ecological science, Bramwell claims that the eighteenth and nineteenth century method of objective observation alienated the scientist from nature (1989: 22-31). Keith Thomas, another twentieth century historian of ecological science, agrees and observes:

In place of a natural world redolent with human analogy and symbolic meaning, and sensitive to man’s behaviour, they constructed a detached natural scene to be viewed and studied by the observer from the outside, as if peering through a window, in the secure knowledge that the objects of contemplation inhabited a separate realm (Thomas, 1983 cited in Bramwell, 1989: 30).

Bramwell also identifies two nineteenth century strands of scientific thinking that in combination led to the modern ecological understandings characteristic of the late-twentieth century (1989: 4). The first is the “anti-mechanistic, holistic approach to biology” developed by scientists such as the German zoologist
Ernest Haeckel who is credited with coining the term ‘ecology’ in 1866 (Bramwell, 1989: 4). In adopting Darwin’s notion of the ‘conditions of existence’, Haeckel wanted to develop a specific branch of science that would examine “everything in the physical and biological environment of an organism that affected its survival in the broadest sense” (Cittadino, 2003). The second is the economic approach, which is concerned with the population\(^2\) resource problem. Bramwell summarises how modern ecology has synthesised these ideas:

Biological holism showed that man and animals were interdependent in and on a balanced environment. It implied that there was a scientific truth that lay outside man’s perceptions, but on which man depended. The physical sciences learned that the dissipation of energy might endanger man’s existence, or even that of the planet itself. Geographers examined land settlement and use from the aspect of resources. Land itself became perceived as endangered, and its finiteness, always known as a truism, began to matter (1989: 15).

As Bramwell outlines, “[t]he onus was on the scientist to prove that biological analogies were relevant to man, and eventually a dissatisfaction with mechanical models produced organic biological thinking, and helped to legitimise true ecologism” (1989: 30-31). As such, ecology did not develop passively or naturally as an offshoot of the biological and physical sciences or geography,

\(^2\) Population refers to human populations and to any grouping of individual, single kind organisms (Odum, 1971: 3).
rather its development was increasingly political and dynamic. As Cittadino observes:

World War II proved to be a watershed for ecology. Although earlier preoccupations with community classification and structure, population dynamics, and patterns of distribution continued in the post war years, newer methodologies, practices, and conceptual schemes took hold, and ecology as a science and a profession grew in size, status and organization (Cittadino, 2003).

During the 1960s, ecology was radically transformed by the emergence of ‘systems theory’, which developed from ecological-economic theory and understandings of population dynamics. Systems theory emphasised the role of ecosystems in maintaining “an equilibrium of energy” and offered an explanation as to how “complex biological organisms worked” (Bramwell, 1989: 61). The delineation of ‘systems ecology’, in the late 1960s, allowed ecological science to transform the “direction and scope of ecological studies” (Boughey, 1971: 5). In combination with certain technologies, such as computer and mathematical modelling, the systems approach enabled the simulation of ecosystem functions and activities being investigated. As a result, ecological theorising and empirical investigation do not depend upon large scale physical observation and data collection (Boughey, 1971: 5-6).

Numerous commentators assert that early ecologists and the modes of ecological thinking directly challenged the dominance of hard sciences as the province of
expertise (see Beck, 1999: 61; Lanthier and Olivier, 1999: 69-70; Rutherford, 1999b: 104; Taplin, 1992: 177). Ecologists sought to transcend the constraints of singular science, instead ecological thinking wanted to synthesise science. As McMichael argues, ecology is “subversive in transcending single science disciplines”, because of this it remained a “fringe discipline in the life sciences” until the 1970s (2001: 21, 22). McMichael further states that ecology destabilises the authority of scientific discourse by problematising notions of scientific truth and method. He observes that “[t]o many scientists, with their finely honed reductionist skills, these ideas are unfamiliar, unsettling and threatening” (2001: 22).

Ecological science has a theoretical and empirical focus, it embraces a variety of sub-disciplines and specialisations. Modern ecology is not simply “a field study of natural history”, it is a science that employs numerous techniques, including statistics, mathematical modelling and analysis that are utilised to calculate “the interplay between living organisms, materials and energy … not only within a biological system but also within an interdependent physical one” (Boughey, 1971: 4). Modern ecology and associated technologies have facilitated the detailed mapping and auditing of physical environments, and have profoundly effected our modern appreciation of ‘the environment’ as a dynamic and potentially fragile web of interdependent physical zones, spaces and activities.

The Fragile Contaminated Environment

Toxicology emerged in the late nineteenth century from bacteriological science and sought an etiological explanation for disease. It is a highly reductive science
and as such contrasts to the contemporaneously developed ecology. However, it has become a tool utilised by other perhaps broader forms of scientific enquiry, including epidemiology and ecology. “Advances in the understanding of molecular and cellular processes expanded the basis for connecting chemical exposure with the induction of diseases such as cancer” (Jasanoff, 1995: 118). Essentially, the toxicology technique allows the health of an environment to be measured and diagnosed, and in that sense is specifically employed to “evaluate occupational exposures, public health hazards, and toxic wastes” (Golan, 2003).

McMichael observes that by the 1980s Rachel Carson’s *Silent Spring* warning acquired serious consideration by the scientific community, as:

> Concerns about the direct toxicity of environmental chemical exposures were supplemented by heightened suspicions that cumulative exposures to various non-biodegradable chlorinated hydrocarbon chemicals, such as DDT and the polychlorinated bipheynls (PCBs), could disrupt the workings of the reproductive system, the immune system and the neurological system (2001: 166-167).

Whilst ecology has revealed the complex interdependence of human and natural environments by providing a measure of the relative stability and fragility of ecosystems, toxicology has significantly focused attention upon “the human-made contamination of the environment within the industrial urban setting” (McMichael, 2001: 158).
The Problematisation of the Environment

In the early nineteenth century, ‘the environment’ became physically more conspicuous and increasingly fouled. This led to the problematisation of the environment through governmental discourse and practice focusing upon those publicly harmful or dangerous aspects of nature (McMichael, 2001: 160-161). This process was stimulated by the advent of industrialisation and associated demographic upheaval. Industry originally depended upon water power, and consequently industrial activity was geographically confined and limited. However, the genesis of steam power broadened the scale of industry and allowed factories to be located in cities, which provided the impetus for rapid expansion of concentrated urban development (Coyle and Morrow, 2004: 108). Due to this, the living and working conditions in many new urban centres significantly deteriorated. These new industrial conurbations lacked those ideal human conditions evident in older cities, and due to the largely unregulated industry were susceptible to overcrowding and pollution. These factors, combined with the lack of coordinated sanitation, led to the onset and rapid spread of infectious diseases, such as cholera and typhoid (McMichael, 2001: 254-255). In addition, the infant mortality rate was high (Coyle and Morrow, 2004: 108-109) and in the early-nineteenth century the general death rate exceeded the birth rate, with the population of urban Britain being singularly sustained by the steady immigration of dispossessed rural poor (McMichael, 2001: 254). The scientific belief at the time was that the contagion responsible for disease was in the air, as miasmas.3

3 The scientific belief in miasmas or impure air as the source of disease was discredited within decades by the conception of ‘germ theory’, although the accumulated waste or sewerage which
Frederich Engels’ famous contemporary snapshot of Manchester in 1845 does not simply describe the miserable conditions experienced by the urban poor. It also attempts to explain, albeit in radical language, just how the population had become unhealthy:

All putrefying vegetable and animal substances give off gases decidedly injurious to health, and if these gases have no free way of escape, they inevitably poison the atmosphere. The filth and stagnant pools of the working people’s quarters in the great cities have, therefore, the worst effect on public health, because they produce precisely those gases which engender disease; so, too, the exhalations of contaminated streams (as cited in McMichael, 2001: 161).

Even though the scientific belief in miasmas or impure air as the source of disease was discredited within decades by the rise of ‘germ theory’, it nevertheless provided, in the early- to mid-nineteenth century, a way of seeing that was the impetus for a number of significant government initiatives, initiatives that later came to form what was called ‘public health’ (McMichael, 2001: 161-2). A famous example of such initiatives were the statistician Edwin Chadwick’s sanitary reforms of the 1840s, “grounded in assumptions about the disease-inducing role of miasmas, those foul telluric emanations that arose via decay in dank, squalid urban environments” (McMichael, 2004: 161). On the basis of the sorts of assumptions typified by Chadwick, and with confidence in

produced the ‘impure air’ was indeed the cause of disease, not the smell or ‘foul effluvia’ itself (Reynolds, 1995: 93).
the capacity of the new sanitary science to control and manage at least some aspects of urban Britain, government commissioned reports and inquiries, such as the Report on the Sanitary Condition of the Labouring Population (the Chadwick Report of 1848), the Reports of the Commissioners on the State of Large Towns (1844-45), and the Report of the Royal Commission of Noxious Vapours (1878) (Coyle and Morrow, 2004: 133). In addition, the considerable social interest and anxiety surrounding such public health risks led to various overcrowded major cities, such as Manchester and London, being mapped according to the prevalence of poverty, disease, drinking, crime and economic status (Lewi and Wickham, 1996: 57). Such governmental initiatives led further to the involvement of law. This commenced with the introduction of regulations aimed at shaping the built environment and enforcing systematised sanitation and pollution control (Lewi and Wickham, 1996: 57-60).

**Public Health Law**

In the eighteenth and nineteenth centuries the common law of nuisance had in its way considered issues we might now label ‘environmental’. Though the law of nuisance had evidenced some awareness of the collective interest in the health of the physical environment, “its ability to formulate and pursue general policies which promote environmental values” was limited, as case law was too *ad hoc*, particular and local in its focus (Coyle and Morrow, 2004: 157). The law of nuisance offered no real legal sanction for harm caused by industrial pollution because, even though industrial pollution might well have been, indeed, almost certainly was, undermining the air quality and the health of sizable urban populations, it had to cause harm to individual property interests to found an
While the first Public Health Act 1848 did little more than encourage local authorities to voluntarily adopt measures to manage public health, rather than attempting mandatory control from the centre, within a couple of decades public health had become a social priority of late Victorian government (Coyle and Morrow, 2004: 133-4). The later Public Health Act 1875 reflected government's confidence in the capacity of sanitary science to maintain public health through the effective management of physical urban space. It became compulsory for local governments to take at least some sanitary measures to protect public health, and the Act prioritised the public interest in sanitary provision even over the rights of individual property owners (Coyle and Morrow, 2004: 134). In Australia the colonial equivalents of the 1875 Act followed the same model of governance, authorizing “Local Boards to deal with offensive or noxious trades [the production of ‘effluvia’] excessive smoke and places dangerous to health” and adopting the language and practice of ‘sanitation’ (Reynolds, 1995: 96). The 1875 Act was not only the foundation of modern public health regulation, it was a very big step towards the emergence of the environment as a legal subject. As Reynolds argues, the public health legislation was also environmental protection legislation: “The two terms were synonymous and remained so for as long as the laws grounded in public health continued to provide the sole remedies for environmental problems” (Reynolds, 2004: 170).

Physical urban space was not only the object of nineteenth century sanitary regulation, it was also the focus of comprehensive legislative regimes introduced
to limit and regulate industrial pollution. The Alkali Act 1863 and the amended versions of 1874 and 1881, in making the control of pollution the responsibility of the state, reflected government's “total confidence that scientific and industrial solutions could be applied to pollution problems” via the law (Coyle and Morrow, 2004: 136). Significantly, the Alkali Act regimes relied on initially rudimentary, but increasingly sophisticated, technocratic monitoring and enforcement by a specialised professional agency. The ‘Alkali Inspectorate’ measured condensation of muriatic gases (1863 Act), while the 1874 Act also required the monitoring of emission levels. In addition the 1874 Act required manufactures to employ the best practicable (technological) means of abatement to prevent or minimize discharges (Coyle and Morrow, 2004: 135-7). This Act was the first to adopt a legislative approach to the technocratic control of pollution - the beginning of today's legal management of ‘the environment’ (Coyle and Morrow, 2004: 137). As Coyle and Morrow sum up:

The creation of new regulatory regimes, regulatory authorities and professions to prevent and manage adverse consequences of industrialisation gave the system of environmental regulation a self-perpetuating constituency, actively seeking the further development and reform of environmental legislation (2004: 134).

**Discerning the ‘Population’ for Government**

From the eighteenth century onwards, the notion of ‘population’ became central to an understanding of politics and government. The ‘population’, as opposed to groupings of undescribed subjects or territory, was conceived of as having
certain needs, patterns of behaviour and affliction tendencies, which present particular problems requiring resolution by government (Dean, 1999: 99). Drawing from Foucault, both Dean and Rutherford (1999a) contend that the primary concern of government became ‘bio-political’, that is, the maintenance of a productive population. This form of politics developed alongside and relied upon specific knowledges and techniques emanating from the sciences and social sciences. Through the application of bio-political knowledge it became possible, “to rationalize problems presented to governmental practice by the phenomena characteristic of a group of living human beings constituted as a population: health sanitation, birth rate, longevity, race” (Foucault, 1997: 73, as cited in Dean, 1999: 99). Rutherford says:

In the modern West, knowledge of the biological conditions of life and their relationship to individual and collective welfare thus came to be reflected upon as political concerns, and no longer as ‘an inaccessible substrate’ that emerged only periodically against the randomness of fate and death (1999a: 42).

Dean observes that Malthus’ discovery of resource scarcity became a ‘bio-economic reality’, which was “enshrined in the work of the English political economists of the early nineteenth century ... [and] used to generate new norms of government that must be factored against the optimisation of the life of the population” (1999: 100).
Malthus [1798] was one of the first theorists to study the ‘population’ condition. His “Essay on the Principle of Population” investigated available statistics and, amongst other predictions, argued that food production would not be able to equal or satisfy the exponential rate of population growth (as cited in McMichael, 2001: 124-126). Rutherford observes that the “‘population’ emerged as an economic and political problem in which the central concern is the proper balance between population growth and available resources” (original emphasis, 2000: 113). Furthermore Rutherford argues that “not only does the idea of a measurable and manageable population come into existence, so also does the notion of environment as the sum of the physical resources upon which the population depends” (2000: 113).

Improvement in agricultural techniques and changes to the European political economy in the early nineteenth century alleviated to some extent the food crisis which had precipitated Malthus’s essay (McMichael, 2001: 125), but it did not take away from the significance of his insight into, “the constant tendency in all animated life to increase beyond the nourishment prepared for it”, and the consequent inevitability of starvation and death as a ‘positive check’ on this excess (Malthus, 1798, as cited in McMichael, 2001: 124). Following Malthus, the readiness to claim unfettered mastery or perfectibility over the object of ‘nature’ was scarce. This knowledge revealed both the imperative of environmental governance and also the possible difficulties in the management of the ‘living interrelation’ (Foucault, 1988: 160) between the population and

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4 Malthus wrote this essay during a time of food riots precipitated by chronic food shortages and the price doubling of wheat and bread. His essay was published shortly after the French Revolution.
environment (Dean, 1999: 100; Rutherford, 2000: 113-117).

The Influence of Biological Science – Public Health

Since the eighteenth and nineteenth centuries, environmental issues or problems have evolved partly due to specific developments in biological science. The emergence of ‘germ theory’ and bacteriology in the late nineteenth century significantly influenced how ‘the environment’ was understood, and also the shape and purpose of environmental governance, and thus conceptually shifted the focus of public health. As Mendelsohn observes:

[T]he rise of bacteriology involved a conceptual transformation in medicine: from defining diseases by their circumstances, symptoms, and pathologies to defining them by their causes; from clinical and pathological to etiological definitions of disease. Bacteriology gave medicine and hygiene powerful reasons for focusing on the identification and control of necessary, specific causes (2003).

McMichael argues that prior to these developments, medicine and public health had been generally guided by the Hippocratic view that “human health and disease were strongly affected by the external environment” (2001: 157). Following the microbiological advancement of germ theory, cell biology and heredity, particular public health perceptions and initiatives shifted away from the whole or shared environment, “to specific agents causing specific diseases in individuals” (2001: 162). In addition, the experimental breakthroughs achieved by microbiologists, such as Koch and Pasteur, as mentioned previously,
entrenched the reductionist method of scientific positivism and influenced the specialization of science (2001: 163). Ecology was one such specialist science and discussion now turns to how the development of ecological science influenced the concomitant development of contemporary environmental governance.

The Role of Ecological Science and Ethics – Environmentalism

The late nineteenth century understanding of the relationship between humans and nature “influenced by the theory of evolution, specialization in the attainment of knowledge, [and] acceleration in the transformation of nature” (Glacken, 1967, as cited in Rutherford, 1999a: 51). This relationship was further influenced by profound changes to the physical environment that were directly attributable to industrialisation and urbanisation. For instance, in the 1952 winter over two thousand Londoners were killed by city smog (Bates, 2002: 8).

McMichael argues that:

The industrialization of erstwhile agricultural-mercantilist human societies during the nineteenth and twentieth centuries has transformed many aspects of the human habitat. … As populations have increased, as wealth has accrued, and as consumerism has emerged as a late twentieth-century way-of-life, so our aggregate environmental impact has increased. The various forms of environmental pollution, degradation and impoverishment pose a spectrum of risks – toxicological, microbiological and ecological – to human population health. Characteristically, these risks bear on whole communities, sometimes whole populations. Some of
them, such as intensive food production methods and the dissemination of persistent, bioaccumulating organic pollutants, act by weakening ecosystems and diminishing the environment’s carrying capacity (2001: 183)

Modern ecology has complicated Malthus's relatively simple observation of the economic and social effects of resource scarcity. However, as Rutherford observes, the mentality of contemporary government remains bio-political, and focused upon the circumstances, experiences and dynamics of groups and populations (Rutherford, 2000: 111-117).

As such, ecological thinking in the twentieth century identified ‘the environment’ as a special focus of government, rather than a physical space that is simply the site of public health interventions or population resource dilemmas. Following the depression, and World War I and II, serious governmental “interest in the conservation of natural resources, protection of wildlife, and preservation of natural environments” developed (Cittadino, 2003). Such interest was contingent upon post war security, prosperity and political stability. Ecology, namely the bodies of ecological science and ecological ethics, became a means by which the environment and environmental health could be interpreted and understood, and largely contributed to the emergence of modern environmentalism in the latter twentieth century (Bates, 2002: 8-9; Cittadino, 2003). Bramwell delineates the practical and political significance of the focus of ecological science upon “energy flows within a closed system”, and argues that as a result:
The normative sense of the word has come to mean the belief that severe or drastic change within that system, or indeed any change which can damage any species within it, or that disturbs that system, is seen as wrong. Thus ecological ideas have come to be associated with the conservation of specific patterns of energy flows. These patterns can be relatively small in scale, such as a one acre wet-land site; or it can be the weather pattern resulting from the Amazon rain forests, or larger patterns that affect the continuity of human existence (Bramwell, 1989: 4).

In exploring Rose and Miller’s characterization of governmental or political rationalities as “characteristically moral, epistemological and idiomatic” (1992: 178-179), Rutherford argues that modern environmental governance and its functional idiom are informed by the economic model of scientific ecology and by the ecological ethical agenda and discourse (1999b: 116). This is a complex matrix. Whilst other technologies, harder sciences and differently motivated agendas have significantly contributed to the construction and auditing of environments and the shaping of environmental governance, ecological science, specifically ‘systems ecology’, has been instrumental in the elicitation of:

both a guiding political rationality and the technical apparatus of calculation and assessment that by the late 1960s began to make possible a form of regulatory science that was capable of governmentalizing society-environment relations (Rutherford, 1999b: 113).
As a part of ecological science, ‘systems ecology’, or the global ecosystems approach, is a product of post war scientific industrialisation and contends that human populations are subject to ecological laws that are biological in nature. Importantly, during the 1950s, the systems ecology approach emerged in the United States and was initially regarded as a “powerful technique of social engineering” due to its consideration of the ‘population’, including those environments populations relied upon (Rutherford, 1999a: 54). Through systems ecology the environment was constituted as “an object in the hands of government” (Rutherford, 2000: 114).

As noted above, Humboldt, Darwin and their peers first observed and attempted to map the natural world as a complex of discrete yet interconnected ‘environments’ (Cittadino, 2003). However, their scientific investigations, and many of those that followed, were inherently limited by a dependence upon large scale physical observation and data collection (Boughey, 1971: 5-6). Systems modelling allows the pragmatic investigation of the interconnectedness of the global environment by simulating the various functions and activities of specific ecosystems. Through systems ecology science has adopted economic modeling techniques and terminology and has become the epistemological basis for managing the environment (Rutherford, 1999a: 51-52).

The melding of the economic and scientific spheres is a key aspect of systems ecology, which is central to environmental governance (Rutherford, 1999a: 52-55). The technical possibility of efficiently conducting macro-calculations about environmental conditions, including the impact of resource exploitation or levels
of degradation due to certain industrial developments, has positioned the environment as an economic entity that is subject to certain laws, limits and economic agendas. For example, the Club of Rome in its report *Limits to Growth* (Meadows, 1972), argued that the degree to which the environment could sustain continued economic expansion and development was limited. Nevertheless, with technological confidence, it proposed that it was possible to “establish a condition of ecological stability that is sustainable far into the future” (as cited in Coyle and Morrow, 2004: 202). The report was supported by a computer model, which was premised on the interdependence of all facets of the global system and endeavoured to provide strategies for environmentally informed decision making. Although, over time, the Club of Rome model exhibited various significant flaws (Coyle and Morrow, 2004: 202), its ambitious focus and proposals marked a shift in the paradigm of environmental governance to embrace the principle of sustainable development and attendant focus on issues of ‘inter-societal justice’ and inter-generational equity’ as evidenced by later work such as the Brundtland Report *Our Common Future* (Brundtland, 1987).

Sustainable development as espoused by Brundtland represents a ‘light-green’ perspective on environmental issues, focusing on linear progress towards a more evenly developed world. The concept is deeply imbued with technological optimism, proceeding on the assumption that science and technology can enable us to ‘enhance the carrying capacity of the resource base’ (Coyle and Morrow, 2004: 203).
Systems ecology and associated modeling technologies made environmental macro-government practically possible and politically legitimate.

Ecological ethics recognises the interrelatedness of all aspects of the global ecosystem and insists upon humans governing their interrelation and use of the environment in a manner that does not exceed exploitation limits (Bramwell, 1989; Dobson, 1995; Lanthier and Olivier, 1999; McMichael, 2001; Rutherford, 1999a, 1999b). Ecological ethics are produced and projected through the tension between “questions of justice and equity” regarding the social relation to nature (Rutherford, 1999b: 116) and the utilitarian objectives of a “highly rationalized, often technocratic, scientific expertise” (1999b: 115). However, there is a plurality of ecological critiques, in that, each understanding of ecological ethics has spawned its own form of environmental politics and has advocated alternate approaches to the governance of environmental problems (Dobson, 1995; McMichael, 2001; Rutherford, 1999a, 1999b). Two quite disparate ecological approaches, the eco-centric and the environmental, will be briefly considered, not to develop a detailed analysis of ecological thinking, but rather to demonstrate the breadth of that thinking.

Eco-centric ecology or ecologism requires a radical change to the “metadiscourse of western culture” which arguably fails to recognise that the environmental crisis encompasses more than resource depletion and pollution (Dobson, 1995: 1-8). Dobson argues that: “Ecologism holds that a sustainable and fulfilling existence presupposes radical changes in our relationship with the non-human natural world, and in our mode of social and political life” (1995: 1). In many
respects, ‘ecologism’ is a critique of the seventeenth century Cartesian quest to ‘control nature’. Cartesians developed a thoroughly anthropocentric understanding of the world, which reflected the dominance of “empiricism, reductionism and material determinism” (McMichael, 2001: 18). Dobson further stipulates the importance of distinguishing between his eco-centered ecology and environmentalism. He argues that ecologism purports a political ideology, whereas environmentalism conveys a “managerial approach to environmental problems” (1995: 1).

Unlike eco-centered ecology, environmentalism does not assume the necessity for fundamental change to patterns of production and resource use. However, Rutherford argues that the values of ecologism are nevertheless inherent in contemporary environmentalism. He observes that environmentalism embraces both the rationality of scientific ecology as well as a moral, romantic environmental sensibility (1999a: 101-102).

Environmentalism is a product of ecological attempts to articulate environmental problems and as such relies heavily upon ecological science and ethics to delimit, define and justify its claims. In combination, ecology and environmentalism have undoubtedly revealed and defined many environmental spaces and entities, and have had a determining political influence upon the shape of modern environmental governance.

Environmentalism has simultaneously relied upon the understanding and techniques of ecological science to identify and map environmental risks, and has
attempted to initiate forms of environmental governance that challenge the perceived benefits of scientific, technological progress and economic expansion. Late twentieth century environmentalism has produced a scientific and ethical critique that “recognizes uncertainty, holism, interconnectedness, synergies and complexity” (Havemann, 2003: 20) and has connected the creation of ecological risks to the application of technology and commodity production (Beck, 1992b: 161-162; Havemann, 2003: 20; Rutherford, 1999b: 105). Whilst ecological ethics underwrite the ideology of environmental stewardship, ecological science has provided the means and techniques of calculation which has enabled environmentalists to frame arguments that are founded upon ‘objective’ scientific principles, which courts and policy makers are more open to hearing and considering. Sir Garfield Barwick, former Chief Justice of the High Court of Australia and past President of the Australian Conservation Foundation, spoke about the possibility of achieving a balance between resource use and a sustainable environment. He observes that:

The problem, like so many with which humans are faced from time to time, involves an intelligent balance, achieved by the use of knowledge, reason and wisdom: … There are, in most cases, two sides of the argument, much to be said pro and con. The solution must be the result of calm and objective consideration, however strong opinions may be held and expressed, and however much emotion or intensity of feeling may have been aroused (as cited in Bates, 2002: 10).
Chapter Six considers the degree of influence that the ‘counter’ expertise of environmentalism has had upon the recognition and success of public interest groups, such as the Australian Conservation Foundation.

Overall, ecology has significantly influenced the form and focus of environmental governance by providing the epistemological basis for the emergence of environmentalism. In addition, Rutherford argues that:

[I]t was from within the environmental movement that there emerged a new category of discourse (that of ‘ecological modernization’) which challenges the conventional view of the inherent conflict between environmental protection and economic growth per se. Instead, there is a reconceptualization of the relationship between economics and environmental imperatives, in which the maintenance of ecological health is increasingly seen as an essential precondition for long term economic development (original emphasis, 1999b: 110).

Rutherford claims that ecology is the “rationale behind a new form of political economy” (original emphasis, 1999a: 52). It is adjunct to economic thinking and calculation regarding the appropriate and feasible utilisation of the environment. In particular, systems ecology has transformed the project of environmental governance and also increased its size and scope. It produced a form of knowledge and technical capacity that has led to a global understanding of environmental problems and contributed to the development of various universal principles of sound environmental governance (Rutherford, 1999a; Stein and
Mahoney, 1999). It has allowed the emergence of the concept of ‘ecological modernization’, which “seeks to minimize conflicts of interest and to emphasize the benefits, in all terms including economic ones, of environmental protection” (Steele, 2004: 185). “[C]ost-benefit and risk-benefit analysis, techniques which seek to make the environment count in economic terms” are as significant to ecological modernization as the concepts of ‘polluter pays’ and the ‘precautionary principle’ (Steele, 2004: 186).

In 1987, the notion of ‘ecologically sustainable development’, as initially articulated by the Club of Rome, was addressed by the United Nations through the Brundtland Report (1987). It proclaimed the “possibility of a new era of economic growth, one that must be based on policies that sustain and expand the environmental resource base” (Bates, 2002: 12). Like the Club of Rome report, the Brundtland Report assumed the “integrated nature of ecology and economy” (Bates, 2002: 120). Coyle and Morrow argue the Brundtland Report:

reflects contemporary environmental thinking by recognizing that environmental issues cannot be approached in isolation: it touches upon every other area of human activity, not least upon the way in which we organize our societies, political institutions, economies and our use of science and technology (2004: 203).

Bates argues that since the Brundtland Report environmental problems have been considered in terms of appropriate limitations to “conservation and development rather than development or conservation” (Bates, 2002: 11). However, the
Brundtland Report has been subject to some criticism, Eckersly argues that the vagueness of the enunciated principles have enabled “a range of divergent political and economic agendas, that have changed very little in the wake of the Brundtland Report” (1991: 46). In addition, there has been insufficient action to implement practical measures to develop and achieve the elicited ecologically sustainable objectives (1991: 46).

Subsequent international attempts at global environmental governance have encountered similar criticism. 1992, the ‘Rio Earth Summit’ and subsequent manifestos, including the *Rio Declaration on Environment and Development* and *Agenda 21*, aimed to implement the sustainable development model at the local level in participating countries, wherein the developed North would assist the developing South in the model implementation. However, the developed countries failed to fulfill this agreement, which led to the 1997 ‘Earth Summit+5’ in New York being less effective in promoting the sustainable development agenda (Brusasco-Makenzie, 1999: 19). Coyle and Morrow observe that principles of inter-societal justice are not readily acted upon, and that international measures to reduce ozone depletion and global warming have southerned due to the cost for developed nations in recognising and satisfying their differential burden of responsibility (2004: 204-206).

Nevertheless, the Brundtland Report and those reports, international summits and protocols that followed are undeniably significant in terms of setting a new agenda for environmental governance. Whilst Justice Paul Stein, from the NSW Land and Environment Court, and Susan Mahoney, from the OECD, are critical
of the level of practical application of the principles of ecologically sustainable
development, they argue that:

Nonetheless, the concept of ESD [ecologically sustainable development] has steadily become part of everyday language, if not everyday policy and decision making. … There has been a subtle infiltration of these concepts, from statements in treaties, to domestic implementation through (non-binding) intergovernmental agreements and the implication of the terms of treaties into domestic law by the courts to inclusion in, first the objects and then the substantive provisions of domestic legislation (Stein and Mahoney, 1999: 58).

Chapter Six examines the implication of this widespread shift in institutional thinking about the environment, particularly the recognised collective and intergenerational environmental governing responsibilities, stemming from ecological sustainability principles, upon the ‘pragmatic and situated’ calculation of public interest in the environment within the common law.

The Emergence and Implication of Risk

In the twenty first century, the realm of ecological thinking has discovered a unique range of environmental problems for resolution, which have been primarily constructed by the figure of risk (McMichael, 2001: 22; Peel, 2005; Rutherford, 1999a, 1999b; Steele, 2004). Eco-systems and environmental and human health are mapped and governed through specialist calculations of risk as diverse as environmental impact assessment (Peel, 2005: 22), epidemiological
studies (McMichael, 2001:22) and cancer research (Kune and Kune, 2003: 112). Notably the ‘precautionary principle’, which requires evaluation of the ‘risk-weighted consequences’ of activities and resource use which could impact on environmental well being, sustainable development, and human health, has become a fundamental norm of environmental governance (Peel, 2005: 18).

_Vorsorgeprinzip_, the requirement of foresight and planning, had been a central element of German environmental policy since the 1970s (Peel 2005: 16). The ‘precautionary principle’ became a recognised tenet of international environmental governance with the _Rio Declaration on Environment and Development_ in 1992. Australia formally embraced the concept in the same year in both the _National Strategy on Ecologically Sustainable Development_ and the _Inter-Governmental Agreement on the Environment_ (Peel, 2005: 16-19). Peel observes its institutionalization in Australia “is evident in its widespread and systematic adoption in environmental policy instruments and legislation, as well as through the recognition given to the principle by domestic courts” (2005: 15).

The precautionary principle assumes that scientific certainty is not always possible, and the lack of certainty as to whether there is a causal link between a particular activity and a potential for environmental harm should not be a basis for failing to take action (precautions) to protect against that harm (Peel, 2005: 16). The principle is premised on ecological understanding of the environment as a closed system which has a limited capacity to absorb and tolerate damage. It is a born of a positive scepticism about the infallibility of science and “traditional scientific methodologies in dealing with complex natural systems”, as well as
concern regarding the impact of technological progress (Peel, 2005: 21). The precautionary principle is part of a ‘normative framework’ that depends upon the technical capacity of science, but also endorses public participation in environmental governance and seeks a range of viewpoints from the community, stakeholders and non-government organisations. Peel argues that the ‘paradigm shift’ in environmental governance, which the widespread institutionalization of the ‘precautionary principle’ represents, is a result of a “declining faith in science in many sectors of industrialized society when compared with the enthusiasm for scientific progress and technological development which marked Western culture of the early 20th century” (2005: 21). Jasanoff argues that:

Advances in the realm that is conventionally labeled ‘technological’ require the readjustment of existing behaviours, institutions and relationships. They enable new modes of conduct – and sometimes foreclose old ones – thereby calling into question notions of fundamental significance to the law, such as agency, causality, rights, responsibility, and blame (1995: xiv).

The sociological theory of the ‘risk society’ and the relationship of humans and the environment begin with the same premise. Beck says a key attribute of late modernity comprised the recognition of environmental problems. He conceives of modernism as having two phases (1992a; 1992b). The first phase involved a shift from traditional society, which knows hazard or disaster but not risk, to industrial society, which knows and distinguishes between each. This occurred through the transformation of nature by technological capacities and the control of nature by scientific means (Dean, 1999: 180). Although industrial
technologies produced new hazards, potential disasters, and physical and economic risks, the emergence and application of scientific knowledge rendered these problems calculable and manageable (Dean, 1999: 180). Science largely replaced religion as the source of legitimation and understanding, metamorphosised the relationship of humans to nature, and enabled the realisation of the Enlightenment narrative of progress, which equated success and prosperity with economic growth and wealth creation (Dean, 1999: 180). The knowability and containment of risk maintained and consolidated the Enlightenment narrative by ensuring that risk production would remain “subordinate to the production of wealth” (Dean, 1999: 181). Risks were perceived as the “predictable and limited but necessary side-effects of technical and economic progress” (Dean, 1999: 181).

Beck argues that in the second phase of modernity both the scientific capacity to predict and direct the outcome of technological innovation, and also the politics and culture of the Enlightenment narrative have been disrupted and challenged. Beck points to the fact that the ultra-hazards, uncertain side effects and risks presented by late industrialisation and globalisation are less amenable to the transformation and control exhibited in the first phase of modernity (1992b: 19-22). The highly ‘scientised consciousness’ of advanced technical society is characterised by ‘systemic contradictions’ between the heightened knowledge and questioning of risk, and an insistence on expanding the ‘commerce in risks’ (Beck, 1992b: 56-57; Rutherford, 1999b: 104). The focus on bio-political governance has evolved beyond simply considering resource scarcity to face the globalisation of resource deficiency, the problem of how effectively dispose of
waste, the latent toxicity of many material production by products and the potential synergy of such toxins (Doyle and Kellow, 1995). Beck states:

To put it another way, risk societies are characterized by the paradox of more and more environmental degradation – perceived and possible – coupled with an expansion of environmental law and regulation. Yet at the same time, no individual or institution seems to be held specifically accountable for anything, how can this be? To me the key to explaining this state of affairs is the mismatch that exists in the risk society between the character of hazards or manufactured uncertainties produced by late industrialisation and the prevalent relations of definition which date in their construction and content from an earlier and qualitatively different epoch (original emphasis, 1999: 149).

Beck terms the relations of definition “the legal, epistemological and cultural power matrix in which risk politics is conducted” (1999: 149). These relations of definition comprise ‘four clusters of questions’:

1. Who is to define and determine the harmfulness of products, the danger, the risk? Where does the responsibility lie – with those who generate the risks, those who benefit from them, those who are potentially affected by them or with public agencies?

2. What kind of knowledge or non-knowledge about the causes, dimensions, actors, and so on, is involved? To whom have evidence and proof to be submitted?
3. What is to count as sufficient proof in a world where knowledge about environmental risks is necessarily contested and probabilistic?

4. Who is to decide on compensation for the afflicted, and what constitute appropriate forms of future damage limitation control and regulation? (1999: 149-150)

Through these ‘clusters’, environmental ‘counter’ expertise, public interest groups and others have challenged the conviction of the Enlightenment narrative in the universal benefit of scientific dominance, technological progress and expansion. Such scientific and ethical critique connects the creation of ecological risks to technology application and commodity production (Beck, 1992b: 161-162; Havemann, 2002: 10; Rutherford, 1999b: 105).

Beck argues that the risk society is characterised by a ‘sub-politics’, which resides outside of formal governmental institutions and comprises contestation regarding the form of risk, the definition of risk and whom decides this definition, and the nature of risk governance and the process of judging this governance. He suggests that reflexive modernization is characterised by ‘truth contestation and debate’, which posits the risk society in a continual state of ‘self confrontation’ (Beck, 1994: 5, as cited in Dean, 1999: 181). Regardless of whether one accepts Beck’s epochal and totalizing claim that contemporary society is a ‘risk society’, his ‘relations of definition’ identify key questions that the common law has had to confront in the adjudication of matters relating to environmental protection and the determination of liability for the creation of toxic environments. Rutherford delineates Beck’s thesis thus:
Hazards are defined and evaluated not privately at the level of the firm, but through a matrix of ‘quasi-governmental power positions’ incorporating debate among scientific experts, juridical interpretation in the courts, and comment in the mass media. The unintended consequences of putative private economic activities are transformed into socially defined risks through scientific contests fought out by ‘intellectual strategies in an intellectual milieux’. Thus the production and distribution of knowledge is central to the functioning of late modern society (Rutherford, 1999b: 105).

**Conclusion-Towards the Function of Law in Environmental Governance**

Following the governmentality theorist Miller (1992), we might say that certain ecological forms of calculation have enclosed spaces and activities and defined them as environmentally problematic, and in turn legally problematic and visible. The social authority of law to endorse and regulate governmental programs has meant that it has been inevitably implicated in the contestation and negotiation of environmental governance (Gunningham, 1994). Environmental governance and discourse have required a certain refiguring of legal rationality. In turn, legal discourse has been confronted by the immanent critique of environmentalism, which “makes radically problematic and contradictory the industrialising imperative which lies at the heart of modernisation by redefining the cultural and ecological limits of the instrumental domination of nature” (Christoff, as cited in Rutherford, 1999b: 111).
The environment is a quite different legal subject from its precursor the autonomous, rational, legally capable individual. While the autonomous, rational legally capable individual could lay claim to the possession of substantive legal rights, the environment is a shifting subject that is the product of a constant negotiation of conflicting interests and exercise of administrative discretion. Contemporary legal regulation of the environment focuses on certain environmental values and duties rather than rights. The environment does not enjoy legal rights in the same way that the legal rights of an individual human actor are recognised and protected. However, the Australian legal system, like most western liberal countries, has developed a complex body of ‘environmental’ law which defines powers to take action affecting the environment, imposes limitations and duties on the scope of activities affecting the environment, articulates and mediates the environmental responsibilities of government, industry, resource users and individuals as well as imposing liabilities and sanctions for failure to comply or conform with regulation and duties established to protect the environment (Fisher, 2003: 132).

It is argued here that ‘the environment’ is an object of science, an object of government and an object of law produced through their various intersections, as a contingent, not a necessary outcome forming a new legal subject. An entity that could not only be granted the status that goes with the designation but also a formal recognition of its name, ‘the environment’, a new participant in the political and legal world.
ENVIRONMENTAL SENSIBILITY

By the late eighteenth century the appreciation of nature, and particularly wild nature, had been converted into a sort of religious act. Nature was not only beautiful; it was morally healing. The value of the wilderness was not just negative; it did not merely provide a place of privacy, an opportunity for self-examination and private reverie (which was an ancient idea); it had a more positive role, exercising a beneficent spiritual power over man. ... The feeling of awe, terror and exultation, once reserved for God, was gradually transposed to the expanded cosmos revealed by the astronomers and to the loftiest objects discovered by explorers on earth: mountains, oceans, deserts and tropical forests (Thomas, 1983: 260).

Environmental Sensibility and the Dynamic Process of the Environment

This chapter further explores how ‘the environment’ was revealed as a subject of governance and as a matter of general public concern or interest through a consideration of the emergence of ‘environmental sensibility’. The understanding of environmental forces which emerged in the life sciences were taken up and developed simultaneously with an aesthetic and spiritual appreciation, as well as a
practical engagement with nature, as environment. The life scientist of the
eighteenth and nineteenth centuries required a practical engagement with the
environment. Geologists, botanists, phytogeographers ventured into the field, often
quite ambitiously, they were accompanied and followed by painters, poets, travel-
writers, photographers, collectors, horticulturalists, tourists and adventurers.
Through their myriad encounters with the natural world, the environment and its
qualities, frailties and value, came to be articulated. The environmental ethicist
Eugene Hargove argues that, “western aesthetic and scientific attitudes” are
inexorably entwined and together support a modern ‘environmental perspective’
(1989: ix) or, what we might call here, an ‘environmental sensibility’.

An environmental sensibility or consciousness is constructed through ways of
experiencing and thinking about the natural world. Environmental sensibility is
contingent, it may be keenly felt by some, and non-existent for others. The
emergence of a modern environmental sensibility has been shaped by intellectual or
scientific understandings of nature as an economy of ecosystems. The
epidemiologist Tony McMichael citing Paul Shepard, the first professor of human
ecology, observes that our human need to interact with wilderness and animals, and
to venerate certain natural places, is a product of biological evolution and
consciousness of our connectedness to the natural world (McMichael 2001: 20-21).
Modern environmental sensibility has also been inspired by certain forms of
physical interaction with nature such as gardening, walking, mountaineering, and
collecting botanic specimens. It incorporates an aesthetic appreciation of the natural
world and reflects certain ethical principles which privilege the intrinsic value of the environment. To possess an environmental sensibility it is to understand the environment, not as a thing, or somehow ‘out there’, but as a dynamic process of which humans are a part (Taylor, 2004: 164). It is a process which has a history, an economy, and a power to transform and be transformed (Hargrove, 1989: 195).

Before the nineteenth century it is arguable whether the ‘environment’, as we now appreciate it, was visible at all. It became visible in part through the emergence of certain forms of ‘environmental sensibility’. This chapter will examine some of the influences on the emergence of environmental sensibility.

An Environmental Aesthetic

An aesthetic appreciation of the ‘environment’ is something different to an appreciation of natural beauty, or the colours of a ‘landscape’. Objects in nature or the qualities of natural objects, such as the sensuous form of a tide-sculpted rock, may be readily appreciated in an aesthetic sense in much the same way as we might appreciate a work of art. Similarly landscape may be reduced to the ‘picturesque’. Placing the rock on our mantelpiece or hanging the landscape as a painting above the fireplace transforms each into an aesthetically pleasing object, but it is not necessarily coextensive with an aesthetic appreciation of the environment-

environment. Each has been removed from the very environment in which it was shaped, and it has become autonomous, in an aesthetic as well as a physical sense, from that environment (Carlson, 1979: 124).
In appreciating the qualities of a work of art we do so according to certain conventions and knowledge which frame that ‘art’. The conventions and knowledge of art appreciation and the space and institutional conditions under which the ‘art’ is encountered are contingent; like artistic taste and sensibility they shift over time. An aesthetic appreciation of the environment involves a quite different way of seeing, constructing and thinking than is required of an aesthetic engagement with art. Nevertheless, the aesthetic appreciation of environment has significant historical roots in eighteenth and nineteenth century traditions of landscape painting and the appreciation of nature as ‘picturesque’ (Carlson, 1979: 125). A picturesque aesthetic valued “natural rather than artificial or improved objects … The new taste for the natural world included an appreciation and even a love of wild things” (Hargrove, 1989: 87). William Gilpin, an English aesthete who claimed special expertise in the picturesque, observed that England would “be more beautiful in a state of nature than in a state of cultivation” for, “[w]herever man appears with his tools, deformity follows his steps. His spade and his plough, his hedge and his furrow, make shocking encroachments on the simplicity and elegance of landscape” (cited in Thomas, 1983: 285). To be ‘picturesque’ a scene had to be something other than the ordinary familiar surroundings of the everyday. The ‘picturesque’ scene was framed according to the conventions of landscape painting and necessarily remained at a distance, appreciated for “its artistic and scenic qualities of line, colour and design” (Carlson, 1979: 125).
The ‘sublime’ was the other standard of beauty by which nature was appraised into the nineteenth century, although both the picturesque and sublime were less frequently used as descriptive terms as a more profound vocabulary and understanding of nature developed (Hargrove 1989: 87). As with the picturesque, an appreciation of the sublime did not demand improvement of nature, nature was evaluated on its own terms (or what was perceived to be the essential qualities of the natural). Nature as sublime, however, was not always beautiful; it could “be harmful as well as pleasing”. As sublime it did not embody a sense of completeness, and could not therefore be so easily visually captured or framed (Hargrove, 1989: 87). Hargrove observes that with the aesthetic appreciation of the sublime “the analogy with works of art, possible with the picturesque broke down” (1989: 87). Significantly, an appreciation of the sublime required, “a reappraisal of man’s importance and position in the world” (Hargrove, 1989: 87). It is possible to trace the emergence of the principles of both the picturesque and the sublime to the knowledge of the “complexity, diversity and variety of nature” which was the product of the work of the amateur and professional life scientists (Hargrove, 1989: 87). The historian Keith Thomas observes that by 1800:

Doubts and hesitations had arisen about man’s place in nature and his relationship to other species. The detached study of natural history had discredited many of the earlier man-centred perceptions. A close sense of affinity with animal creation had weakened old assumptions about human uniqueness (1983: 243)
These ‘doubts and hesitations’ became more firmly felt with the theorisation of geological time by Hutton, Lyell and Darwin (Hargrove, 1989: 87-8). The natural world, as it is conceived through geological time, is in the process of inexorable transformation which has been ongoing for immense periods of time. It was in part through the theorisation of geological time that biology instigated a departure from the natural-history traditions and ways of thinking of the early moderns. Historian of scientist, Alan Morton notes this break was

not sudden, but it began unmistakably during the eighteenth century with the dawning recognition of the possibility, and the probability, that living organisms had not reproduced themselves unchanged since some moment of divine creation, but had undergone a development in time, in which simpler organisms gave rise to more complex ones, fitted for many habitats and ways of life (Morton cited in Taylor, 2004: 60)

**A Picturesque Environment**

Not all nature was attributed ‘picturesque’ qualities, it was a way of seeing nature which was learnt or acquired. For example, many of the early Australian colonists found the Australian landscape monotonous; they were not excited by the indigenous eucalypt. The colonists were used to, and delighted in, a familiar English landscape, the imperiousness of the established taste was exemplified by this account in *The Times* of the Australian eucalypt:
Neither so delicate nor so umbrageous as the trees of Europe: they are not so well adapted to the beauties of landscape as the oak, the elm, the beech, and the poplar of this country; there is moreover, a sameness of appearance about them, which deprives the representation of interest (The Times, 29 June 1835, cited in Bonyhady, 2000: 92).

There were, of course, those who did relish the exotic qualities of the colonial landscape. As he left England for Van Deimen’s Land, the new colonist and painter John Glover was full of “the expectation of finding a beautiful new world – new landscapes new trees, new flowers, new animals, new birds” (cited in Bonyhady, 2000: 92). Glover was not disappointed, he made a special subject of the eucalypt. His enthusiasm for a new world did not prevent him, however, finding certain aspects of the colonial landscape pleasing because they were familiar and conformed to established habits of taste. Bonyhady observes that Glover’s painting A View in Mills Plains combines “everything he admired in his new landscape, celebrating a particularly majestic tree, its park-like surrounds and its immediate suitability for grazing” (Bonyhady, 2000: 91). Glover, with many of his fellow colonists had a preference for the more open and potentially productive landscape, which was found west of Sydney and in parts of Van Deimen’s Land. To the nineteenth century eye, country that was akin to the parkland estates of the English gentry was more aesthetically pleasing than the dense bush around Port Jackson (Bonyhady, 2000: 71-80). Elizabeth Macarthur, writing to England, observed that around Parramatta
there were, “fine Shrubs, trees and Flowers which by their lively tints afforded a most agreeable landscape” (cited in Bonyhady, 2000: 71).

By the latter part of the nineteenth century the picturesque ideal of natural beauty was well established in Australia. James Smith, a leader–writer for Melbourne’s Argus newspaper as well as being its art and theatre critic, underwrote the case for conservation and the extension of national parks with an insistence on the picturesque aesthetic of places such as Fern Tree Gully in the Dandenong. To Smith’s mind, conservation of places of natural beauty was implicit in being a ‘civilised people’:

A certain portion of woodland is … essential … to the beauty of the landscape. It is the main and, indeed, in most of our districts, the sole ingredient of the picturesque, and we should be deficient in the ordinary good taste supposed to be characteristic of a civilised people, if we were insensible to the necessity of improved care and judgement in protecting and enlarging our reserves of the kind (cited in Bonyhady, 2000: 109).

While it may not accord with what we might identify as an ‘environmental’ sensibility, an appreciation of nature in its ‘picturesque’ form has attracted tourists from the late eighteenth through to the twenty first centuries to engage, all be it in a ‘duly distanced’ fashion, with the natural world. Thomas notes that: “By the 1870s there was a torrent of published tours and guides to the beauties of England,
embellished by aquatints of picturesque views from 1775 and steel engravings from 1810” (1983: 266). Likewise in Australia, between the 1880s and 1920s each of the Australian capitals had developed rail-lines to natural beauty spots on the city fringes, such as the Blue Mountains and Fern Tree Gully. Cheap day returns made visits to these places possible for working people as well as the middle class (Hutton and Connors, 1999: 64). The Melbourne press deplored, as we might today, the fact that rather than being ‘improved’ by the experience, the working class day-excursionist more often demonstrated their aesthetic appreciation of the natural beauty of these places by collecting and taking home great bundles of wild flowers and ferns. Notably it turned a blind eye the middle class ladies of Melbourne who did the same. They were excused on account that their “simple trusting minds” believed the ferns to have “been produced for the ornamentation of suburban drawing rooms” (Bonyhady, 2001: 119). However, claims for the preservation of wilderness, have not only been premised on a commitment to protecting the intrinsic environmental values of such places, they have also been founded on utilitarian arguments which cite the “aesthetic delight triggered in tourists by natural objects” (Hargrove, 1989: 80). The scenic and picturesque qualities of the Australian bush were promoted in the early 1900s through photographs and posters published as part of the marketing campaigns of railway departments. Hutton and Connors note that this style of marketing adopted by the early railways, “assisted the bushwalking and national parks cause by reinforcing and disseminating a romantic and desirable image of Australia’s bushlands” (1999: 76).
Despite the significance of such images, the picturesque reduction of nature to a two dimensional scene is not a technique designed to encourage any experience of nature as an ‘environment’. Indeed the environment was often sacrificed or artfully rearranged to meet the needs of art. It was not unusual for the nineteenth century landscape photographer, seeking “the romantic and picturesque”, to carry an axe to open up a prospect or disguise a lack in the foreground of the scene. However, these photographers did not think of themselves as environmental vandals, they were often, like the leading Tasmanian landscape photographer J. W. Beattie, advocates for the preservation of wilderness and the creation of national parks. Beattie clearly distinguished between the axe he used to ‘remedy faulty composition’ (Bonyhady, 2000: 210), and the axe which he feared would come on the ‘tide of utilitarianism’ and sweep away nature’s ‘glories’ (Hutton and Connors, 1999: 76).

Beattie’s incongruous approach to venerating nature was not atypical; consider the example of Eccelston Du Faur, another Australian colonist who was a determined preservationist with an artistic sensibility. Du Faur was a stalwart of the ‘Academy of the Arts’ and the Art Gallery of NSW from the 1870s. He campaigned for the establishment of the Ku-ring-gai Chase National Park and became its first Managing Trustee in the 1890s (Bonyhady, 2000: 194). Du Faur wanted to popularise the natural beauty of the Grose Valley in the Blue Mountains and to achieve this objective he commissioned Sydney photographer Joseph Bischoff in 1875 to photograph the valley and its cliffs after the fashion of Carleton Watkins’ internationally acclaimed images of the Yosemite Valley. To assist Bischoff’s task,
Du Faur hired axemen and led a party of private school boys to chop away trees and bush, so that “the abruptness of the cliffs’ could ‘fairly be appreciated’” (cited in Bonyhady, 2000: 196). He lamented that with more time he might have, “opened up the sky … all around the compass, forming a view of cliffs of 2000 feet high all around, not easily to be surpassed” (cited in Bonyhady, 2000: 198).

John Muir, preservationist, founding president of the Sierra Club, and activist for the establishment of the Yosemite National Park, embodies the tension between the shifting values of aesthetic appreciation which have been applied to the environment. In an account of one of his expeditions in the Sierras in the 1870s Muir describes guiding two artists through the mountains to find a “landscape suitable for the large painting”. Muir appreciated the picturesque qualities the painters were looking for; as he noted in his journal, it had to be a scene which could be separated into “artistic bits capable of being made into warm, sympathetic lovable pictures with appreciable humanity in them” (1998: 109). It took two days of trekking for Muir to bring the artists to a ‘typical alpine landscape’ (Muir, 1998: 110). The artists were apparently overwhelmed by the scene laid out before them, just as Muir himself had been in his first encounter with the ‘Sierra Crown’:

Pursuing my lonely way down the valley, I turned again and again to gaze on the glorious picture, throwing up my arms to enclose it as in a frame. After long ages of growth in the darkness beneath the glaciers, through sunshine and storms, it seemed now to be ready and waiting for the elected artist, like
yellow wheat for the reaper; and I could not help wishing that I might carry colors and brushes with me on my travels, and learn to paint, meanwhile I had to be content with photographs on my mind and sketches in my notebook (1998: 109).

However, despite his empathy for the painters’ response, Muir’s relation to the Sierra, which he reflects upon in his journal, is of a different order to that of the two artists. Muir encounters the Sierras as a mountaineer, he sees the landscape as a geologist, he appreciates it for its sublime qualities as well as the picturesque, and in the Sierras he finds an ecological lesson:

Standing here in the deep, brooding silence all the wilderness seems motionless, as if the work of creation were done. But in the midst of this outer steadfastness we know there is an incessant motion and change. … Here are the roots of all life of the valleys, and here more simply than elsewhere is the eternal flux of nature manifested. … [W]e also learn that as these [landscapes] we now behold have succeeded those of the preglacial age, so they in turn are withering and vanishing to be succeeded by others yet born (1998: 113).

Representations of nature as picturesque, sublime, exotic, wild and pristine have all played a significant role in campaigns to conserve threatened natural environments and establish national parks. Impressed by the Carleton Watkins’ photographs of the
Yosemite Valley, the United States Congress was persuaded to declare Yosemite a State Park in 1864 (Bonyhady, 2000: 195). In the 1890s J. W. Beattie showed lantern slide images of the Tasmanian wilderness in his lectures advocating the preservation of the more remote and beautiful parts of the state (Hutton and Connors, 1999: 77). Field naturalists Archibald Campbell and R. S. Sugars, as part of the campaign to protect the Dandenongs east of Melbourne from agricultural development, also recognised the power of the lantern slide image in their lecture to the Melbourne Working Men’s College on the “ Beauties and Wonders of the Dandenong State Forest” in 1893. The Argus newspaper reported that their pictures were “silent but telling protests against the intention of the Minister of Lands” (cited in Bonyhady, 2000: 123). Wilderness photographers Olegas Truchanas and Peter Dombrovskis’, representations of the Tasmanian South-West wilderness were highly influential in the campaign to stop the damming of the Gordon-below-Franklin river in the 1980s. Dombrovskis’ photo ‘River Island Bend’ was the wilderness image central to the ultimately successful ‘No Dams’ campaign. Bob Brown, senator and leader of the Australian Greens party, and a key figure in the campaign, argues that Dombrovskis’ photography allowed the river [Franklin] “to speak for itself”. Art historian and writer on environmental legal politics, Tim Bonyhady, says: “Peter’s photography initially made the Franklin recognizable, then it made it familiar, and then with ‘River Island Bend’ he created an icon of that place” (Millwood, 2003).
Science and Art - Together in the Field

There has been ‘interplay’ between the natural sciences and art since the seventeenth century. An interplay, which inspired an aesthetic appreciation of nature, in poetry and landscape-gardening in the early eighteenth century, and informed the conventions and focus of Victorian landscape painting, fiction and travel literature (Hargrove, 1989: 81). While the artistic and scientific domains were clearly distinct, there was, for practical reasons, during the eighteenth and nineteenth centuries a working relationship between scientists and artists which “speeded the transition from a purely scientific point of view to a more aesthetic one in the sciences, and vice versa in art” (Hargrove, 1989: 84). Scientists needed the artist to accompany them to the field to record the natural phenomena that were the object of their study. Hutton and Connors observe that “[a]longside collecting was the important work of illustrating, and the attention to detail required by both was often accompanied by sensitive appreciation of the natural landscape” (2000: 28). Hargrove notes that Humboldt included a chapter in his Cosmos: A Sketch of a Physical Description of the Universe (1852), on the vital role of “landscape painting in the study of natural history” (1989: 85). By the mid 1800s art criticism was also stressing the importance of scientific accuracy in artistic representation of the landscape (Hargrove, 1989: 85). Ruskin’s Modern Painters drew a close connection between, what we might now call, an ecological frame of thinking and art, which was highly influential. Ruskin’s work impressed the American landscape painter Frederick Edwin Church, who in the late 1850s, tracing one of Humboldt’s expeditions, set to “paint the natural history of South America”. While in Ecuador, Church painted The Heart of
the Andes (1859), which was to establish the convention of the scientific landscape, and its close attention to the actual forms of nature, in mainstream American landscape painting (Hargrove, 1989: 85). It was not only professional artists whose aesthetic appreciation of natural world developed in combination with scientific study. The amateur naturalists of the eighteenth and nineteenth centuries were often also amateur illustrators or artists, or accompanied in these pursuits by their wives, sisters and daughters for whom the combination of “art and nature study” was a respectable pastime (Hutton and Connors, 1999: 28). The aesthetic appreciation of nature became a hobby and sometime passion of the middle class.

**The Horticulturist and the Botanist**

The scientific quest to know the natural world inspired the prodigious collection and cataloguing of botanical specimens, sometimes to the detriment of favoured species and degradation of places of outstanding natural beauty (Bonyhady, 2000: 109-13). Keith Thomas observes that by the Victorian period “natural history and field botany” became in England, “so characteristic a feature of provincial life” (1983: 283). In Australia amateur science was also popular; by the late nineteenth century field naturalists had established societies in provincial towns as well as the major cities (Hutton and Connors, 1999: 31).

Colonial expansion took the naturalists’ quest into exotic territory beyond Europe and North America. Early horticultural societies also took up the opportunity alongside the natural scientist to collect seed and specimens (Hargrove, 1989: 82).
Those specimens were showcased in the landscaped public and private gardens of Europe, America and even Australia, where they both confronted the visitor and resisted the formality of the traditional landscape-garden (Hargrove, 1989: 82-3). Thomas suggests that the fashion for informal landscaping, which took particular hold in England, was a ‘self-conscious reaction’ to the agriculture of the enclosed and regular fields of the early nineteenth century (1983: 261-2). It was also inspired, among those Englishmen who could afford to admire an uncultivated landscape, by a passion for the mountains and wild places (Thomas, 1983: 264). Hargrove argues that the new informal landscape gardens evoked the wilderness beyond:

Since each individual plant was an emissary, so to speak, from some mysterious and bizarre corner of the Earth, the thoughts of the garden enthusiast inevitably turned to the contemplation of the natural and alien environment (Hargrove, 1989: 83).

Significantly, the garden also promoted the “natural qualities and characteristics of the plants” themselves. The interests of the non-scientific gardening enthusiast and the natural scientist of the eighteenth century elide to some extent, not only around their mutual botanical interest, but, also in terms of their aesthetic appreciation of the plant specimens they study. Many natural scientists “matter-of-factly jotted down

1 The gardens of John and Elizabeth Macarthur’s ‘Camden Park’ were designed and planted by their son William in the 1820s, a passion for botany led him to become part of the world wide exchange of exotic botanical specimens. He both collected specimens himself and sponsored others such as the explorer naturalist Ludwig Leichhardt to find them for him (Holly Kerr Forsyth “Macarths’ grand park”, The Weekend Australian, September 3-4, 2005: 64.)
their aesthetic judgments alongside their factual descriptions” (Hargrove, 1989: 84). From the horticultural perspective, the plant became something more than an object to be artfully positioned or skilfully shaped to enhance the overall design of the formal garden, and Hargrove observes that “[p]lants were elevated to the status of self-contained and self-organizing entities worthy of admiration and study for their own sake” (1989: 83). However, the gardening enthusiast, like the day excursionist, often demonstrated that appreciation by removing the specimen from its natural habitat (Bonyhady, 2000: 114).

**The Scientific Expedition and the Literary Imagination**

Literature was another popular and accessible means by which the “complexity and wholeness of the environment” was represented (Taylor, 2004: 134). Natural history was popularised by authors, writing in English rather than Latin, who wrote to entertain as well as instruct (Thomas, 1983: 282). Hutton and Connors observe that Australia reflected the English passion for natural history popular since the mid-eighteenth century, the colonial press regularly reported the activities of the many amateur natural history societies, and in so doing helped to develop an appreciation of Australia’s natural environment (Hutton and Connors, 1999: 28). Enthusiasm for exotic locales and empathy for a certain form of relationship between the human and natural world was played out in nineteenth century literature. Adventure novels, travelogues and poetry recreated the bountiful and contiguous qualities of nature, through an imaginative exploration of the wilderness and exotic landscapes which had been detailed and celebrated in the reports of scientific expeditions by the
botanists and geographers since Cook (Taylor, 2004: 134). It was not unusual that a fictional narrative, such as Edith Nesbit’s *Island of the Nine Whirlpools* (1899), replicated the “detail and the close description of island forms and environs” found in Charles Darwin’s account of the *Beagle* voyages (1832-1836) (Taylor, 2004: 129). Taylor argues that:

In many fictional works of the Victorian era, nature was an essential and integral part of their overall imaginative structure. For those whom the famous geographer Alexander von Humboldt (1769-1859) acknowledged to be ‘endowed with susceptibility’ for natural beauty, read fiction alongside studies like natural theology, biology, (with its attendant disciplines of botany and zoology) and, eventually evolutionary science. In general terms, these studies described the natural world as a system of dependencies formed between species and between organisms and their surroundings. Thought about ‘ecosystems’, as they came to be known in the twentieth century, and the ‘wild places’ where they were most clearly observed, were seldom far from their thoughts about the dependence of humankind on other living beings and in organic matter (Taylor, 2004: 125).

**Romantic Ecology – Wordsworth and Thoreau**

While the influence of science on art, and phytogeography on literature, are apparent in the eighteenth and nineteenth century, there are still distinct differences in the focus of each domain. The literary critic Jonathon Bate distinguishes Romantic
ecology, exemplified by Wordsworth and Thoreau, from the scientific ecology of Darwin and Haeckel: “Scientists made it their business to describe the intricate economy of nature; Romantics made it theirs to teach human beings to how to live as part of it” (Bate, 1991: 40). Both Wordsworth and Thoreau explored and articulated the “complexity and wholeness of the environment” by describing their own mundane and occasionally sublime experience of nature as it surrounded them daily:

Wordsworth’s innovation was to incorporate into the scene described ‘the very process of inscribing or interpreting it’. Thus ‘the setting is understood to contain the writer in the act of writing: the poet in grip of what he feels and sees, primitively inspired to carve it into the living rock’ (Bate, 1991: 90, citing literary critic Geoffrey Hartman).

The enduring legacy of Thoreau is his intimate account of his wanderings and life within a very specific locale – Walden Pond, close by the New England township of Concord. Thoreau is animated more by the bog than any sublime mountain-scape. His wanderings and writing about the Concord continued after his time at Walden Pond, he kept a journal from the early 1850s until 1861 when he could no longer write, the journals are the story of his observations as a field ecologist and his struggle to articulate the relationship and responsibilities of humans to “the actual condition of the place where we dwell” (cited in Worster, 1977: 66; Thoreau, 1998). Worster argues that through these journals Thoreau reflected the shift from the
“older static models of the economy of nature with new ones that emphasized ecological change and turbulence” (1977: 63). While Thoreau lived an unorthodox lifestyle by the standards of the nineteenth century American puritan, his writing nevertheless exemplifies the close nexus between the nineteenth century aesthetic appreciation of nature and the natural sciences. He was a “self educated naturalist, a competent field ecologist” (Worster, 1977: 60). He wrote papers and gave lectures on the ecology of the seed and “The Succession of Forest Trees” (Worster, 1977: 69-71). Thoreau had read Linnaeus closely, but he did more than learn the species of his natural ‘neighbours’. Inspired as well by the writing of Lyell, Darwin and Humboldt, he wanted to develop a more holistic understanding of the interrelation between the various elements of the animate and inanimate environment in which he lived (Worster, 1977: 65).

“I had no idea,” he admitted, “that there was so much going on in Heywood’s meadow.” Where once the bogs and hillsides of Concord had seemed to him a wilderness of “a thousand strange species,” they increasingly came to seem familiar shores of a well-settled land, a world as important to the town as were the shops and houses on the Milldam or Main Street” (Worster, 1977: 60-1).
‘The Guide’

In 1822 Wordsworth’s, *A Description of the Scenery of the Lakes in the North of England Guide* was first published. It was to go through three more editions, the third published in 1842 was entitled: *A Complete Guide to the Lakes, Comprising Minute Directions for the Tourist, with Mr Wordsworth’s description of the Scenery of the Country, etc. And Three Letters of the Geology of the Lake District, by the Rev. Professor Sedgwick, Edited by the Publisher*. Each edition of *The Guide* morphed a little, and included new material from Wordsworth and his sister Dorothy as well as Sedgwick. While it was in some sense a guide for tourists, Wordsworth isolated to a preface “the humble and tedious Task of supplying the Tourist with directions”, which it was the Publisher’s job to collate (cited in Bate, 1991: 43).

The *Guide* is of interest to this discussion for a number of reasons. It was a practically focused, readily accessible, account of the Lakes environment. It sought to demonstrate the harmony of human society, work and nature. Bate observes that unlike the traveller’s guides which it followed, which had been written, “exclusively for *visitors* to the Lakes, Wordsworth aimed to show what it meant to *dwell* there” (1991: 45). Indeed Wordsworth was opposed to the Kendal-Windermere railway because, he argued, the mass of day tourists would not necessarily, without an

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2 The *Guide* was an expanded version of an introduction and accompanying text Wordsworth had written in 1810 for the Rev. Joseph Wilkinson’s *Select Views in Cumberland, Westmoreland, and Lancashire*. It was published as an essay, *A Topographical Description of the Country of the Lakes, in the North of England*, which accompanied a volume of sonnets and poems in 1820.

3 The 1842 edition out sold other ‘tourist guides’, and the 1842 version was to have five editions in the following seventeen years (Bate, 1991: 43).
education, appreciate the true natural and unimproved beauty of the Lakes in all their wildness (Thomas, 1983: 267). Wordsworth’s *Guide* not only described the wildness and natural beauty of the district, it venerated the agricultural traditions and the historic legacy of the built environment. Wordsworth observed that each: “in their very form call to mind the processes of Nature” (cited in Bate, 1991: 47).

From the 1842 edition on, the *Guide* was more than Wordsworth’s account of the Lake District. As its title makes plain, it included a contribution by the noted geologist, Adam Sedgwick, as well as a botanical table compiled by Thomas Gough, listing two hundred and fifty species of plants which identified for the reader the wood or fell where they might be located. Sedgwick used the opportunity, with some success, to popularise work on geology (Bate, 1991: 44). As Bate observes, Sedgwick’s account of the geological formation of Cumberland and its fossil record served to underwrite Wordsworth’s own exploration of the Lakes as, what we would now call, an ecosystem. He reflected, for instance, upon the manner in which the sustainability of the vales and lakes was dependent upon the presence and structure of the surrounding mountains and tarns (Bate, 1991: 46). *The Guide* was exemplary of the nineteenth century symbiosis between science and literature, as well as the nexus between the life sciences and the aesthetic impulse of emergent environmentalism (Bate, 1991: 42-46). For *The Guide* was also a polemic, appealing to “the Minds of Persons of taste, and feeling for Landscape” (cited in Bate, 1991: 43). Wordsworth wanted those people to move beyond enjoyment of the Lakes to
consider the environmental consequences of the introduction of larch plantations and other development in the Lakes (Bate, 1991: 45-6).

A Feeling for Nature

Some trends of romantic thought cast nature anthropomorphically in the sense that nature was understood through its capacity to ‘validate’ a sense of being human or civilised (Bate, 1991: 56-7). “Rousseau recognized that we need the conception of the state of nature in order to have a critical understanding of the nature of civilization” (Bate, 1991: 56-7). Muir was profoundly conscious of how the physical experience of being on and among the Sierra Mountains produced a certain environmental sensibility and ‘feeling’ for nature and understanding of self:

I pushed on southward toward a group of savage peaks that stand guard about Ritter on the north and west, groping my way; and dealing instinctively with every obstacle as it presented itself. … In so wild and so beautiful a region was spent my first day, every sight and sound and inspiration, leading one far outside of himself, yet feeding and building up his individuality (1998: 111).

William Hazlitt, in an essay ‘On the Love of Country’, argued that nature was our ‘universal home’:
It is because natural objects have been associated with the sports of our childhood, with air and exercise, with our feelings in solitude, when the mind takes the strongest hold of things, and clings with the fondest interest to whatever strikes its attention; with change of place, the pursuit of new scenes, and thoughts of distant friends: it is because they have surrounded us in almost all situations … because they have been the chief source of nourishment of our feelings, and a part of our being, that we love them as we do ourselves (Hazlitt, cited in Bate, 1991: 52-3).

It is this type of quite individualised ‘feeling’ for nature, which characterised it as a constant witness to the very essentials of being human and alive in the world, that inspired Muir and George Catlin to advocate a system of National Parks in America. Writers and essayists such as Hazlitt, Ruskin, Morris and Wordsworth lobbied for the preservation of parts of rural England so that it might be enjoyed and experienced by those who must live in “grim, ‘grey homes’” (Bate, 1991: 53)4. It also inspired bushwalkers in Australia in the late nineteenth century to lobby for the creation of more national parks in Australia as a sanctuary not only for native flora and fauna, but also as a place “where people might find their true selves” (Hutton and Connors, 1999: 61). As Bate observes the attitude to nature typified by these writers values the ‘economy of nature’ not only for its own sake, but also for its place in the human “social and psychological economy” (Bate, 1991: 7). Thomas

4 William Wordsworth called for ‘a national property’ in the English Lake District which was contemporaneous with making a similar argument for the establishment of “‘a nation’s park’ in the American West” (Hargrove, 1989: 79).
argues that by the end of the eighteenth century there was “a growing concern to preserve uncultivated nature as a spiritual resource” (1983: 267).

The social and psychological significance of environment extends beyond the natural world for Wordsworth. He wanted to preserve the integrity of the simple built environment of the Lakes district and the organic qualities of its cottages, which he said “appear to be received into the bosom of the living principle of things” (cited in Bate, 1991: 47). Likewise, Morris and Ruskin envisioned an approach to town planning and architecture which would allow the built environment to mirror the beauty and form of the natural environment (Bate, 1991: 55). The carefully crafted domestic interiors created by William Morris’s workshop held true to the same aesthetic aspiration. As did Ruskin and Morris’s championing of the necessary dignity of work and the inherent nobleness of the artisan’s craft. As Bate argues through his “green reading of Wordsworth” (1991: 9):

In sharp contrast to the so-called ‘Romantic ideology’, the Romantic ecology has nothing to do with flight from the material world, from history and society – it is in fact an attempt to enable mankind the better to live in the material world by entering into harmony with the environment. (1991: 40).

For these thinkers the destruction of the natural environment reflected the destruction of humanity embodied in the crushed vitality of the children who worked
the mills of industrialised northern England. In Wordsworth’s *The Excursion*, viii\(^5\),
the child at work in the cotton mill:

- Performs its functions; rarely competent
- To impress a vivid feeling on the mind
- Of what there is delightful in the breeze,
- The gentle visitations of the sun,
- Or lapse of liquid element – by hand,
- Or foot, or lip, in summer’s warmth – perceived.

**The Park and the Degradation of the Urban Environment**

The industrialisation and urbanisation of the nineteenth century seriously transformed the living environment of working people in England and Australia. The increasingly apparent public health problems associated with industrialisation not only prompted government intervention to improve sanitation and limit pollution, but was also an impetus for the development of public open space and parkland (Bonyhady, 2000: 222-27). Taylor observes that:

The belief that one’s surroundings could aggravate an inherited capacity for disease coincided with mounting evidence that the transformation of nature by human kind was occurring with such magnitude as to threaten the basis of

\(^{5}\) Bate notes that “by the mid-1830s *The Excursion* had been printed four times and sold more copies than any other volume of Wordsworth’s poetry” (1991: 41).
nature’s laws and economies that ultimately was the basis of the well-being of all species (2004: 202).

Concern for public physical and moral health fostered a wider appreciation of the environment as an “aesthetic and recreational resource” (Coyle and Morrow, 2004: 152). Coyle and Morrow observe that for the increasingly urban population, “the natural world was experienced in only a very limited way, if at all. The environment came to be idealised to such an extent that it obtained near mystic significance” (2004: 151).

In the industrialised nineteenth century, enjoyment of the countryside, and physical encounter with its beauty, came to be considered a healthy antidote to the moral as well as physical degradation of life in the city and work in the factories. In England, societies such as the “Commons, Open Spaces and Footpaths Preservation Society” (1865), the “National Trust” (1895), and the “Campaign for the Protection of Rural England” (1926) were founded. The protection of the English countryside was attributed a dual function; to enhance its national beauty and to promote public enjoyment of it (Coyle and Morrow, 2004: 152). In Australia, conservation was a primary objective of national park campaigners, but petitioners also routinely appealed to the value of national parks as places for recreation and escape from the city (Hutton and Connors, 1999: 38-9). Indeed the first two national parks in Victoria, at Fern Tree Gully in 1882 and Tower Hill in 1892 were established for the purpose of public recreation (Hutton and Connors, 1999: 70). Francis Myers, in one
of his many columns in the Argus newspaper as ‘Telemachus’, articulated the complimentary objectives of the national park campaign in Victoria when he asked “Why should not this generation, and the next and the whole of our posterity … have ocean and woodland mountain and meadow playgrounds?” (cited in Bonyhady, 2000: 115).

By the mid-nineteenth century the natural environment became simultaneously a site of scientific interest, physical adventure, spiritual refuge and moral instruction. Taylor observes that prominent British botanists and horticulturalists encouraged the amateur naturalist into the field. Botany was, for them, not just a science, it was “a means of educating the general population into the situation of humanity in the organic world and, hence, its moral condition” (2004: 126). Professor of Botany John Hutton Balfour claimed that study of “plants in their living state, and in their native localities” would combine “the pursuit of scientific knowledge” with the “healthful and spirit-stirring reaction which tends materially to aid mental efforts” (Balfour, cited in Taylor, 2004: 126). The popularity of amateur naturalism among the English and Australian middle class in the eighteenth and nineteenth centuries suggests that sentiments such as Balfour’s were widely shared.

Bonyhady details the extent to which the belief in the necessary link between the physical experience of natural beauty, fresh air, public health and the governance of public morality became a pressing concern among Melbourne’s middle class (2000: 220-47). He argues a concern for nature followed the boom in industry along the
Yarra river in the 1860s which had left the river ‘notoriously polluted’ and was also a response to the growth of slum housing and the ‘mass of poverty’ which was coexistent with Melbourne’s ‘exceptional wealth’ (Bonyhady, 2000: 224-27). Contributions to the Argus newspaper, the more conservative of the two daily papers but also the principal ‘voice of conservation’ in Victoria in the latter half of the nineteenth century, as well as other widely read journals documented a number of key campaigns to improve the urban environment (Bonyhady, 2000: 106-9).

In 1882 the journalist George Bicknell published “A Plea for Sanitation” in the Victorian Review. Bicknell’s vision of public health included maintenance of the natural as well as the built environment. He argued that the work of government and a Minister for Health ought to be:

The administration of a Building Act; the important business of sewage; the enforcement of all health statutes and by-laws; the prevention of such terrible barbarisms as stream pollution and forest destruction; the encouragement of tree planting; the advancement of technology and art studies; and the general oversight of all cognate matters of importance to the public health an artistic culture (cited in Bonyhady, 2000: 223).

This type of thinking was echoed by Francis Myers, a regular columnist in the Argus newspaper. He argued in 1888 that a ‘forest park’ in the Dandenongs outside Melbourne was not only necessary to protect the ‘beauties’ of the Dandenongs for
successive generations against the claims of selectors, saw millers, prospectors and roaming cattle, but also to aid the health of the urban population. Like Balfour he believed in the healthful qualities of nature. A national park was necessary as a place of retreat “‘for the hundreds and hundreds of thousands’ who could only get ‘their recuperation, health and purifying country influences in brief gulps’” (cited in Bonyhady, 2000: 115). In Myers’ view, and others like him, a national park made accessible by train on Sundays and holidays would entice working people away from the vice of “slums, bars and taprooms” (cited in Bonyhady, 2000: 116).

It seems that it was the middle class, who had the means and time, who were more likely to seek retreat from the city than the working people who were the object of the Melbournian reformers’ concerns (Hutton and Connors, 1999: 65). The natural environment became a significant focus of recreation and for some, as discussed above, the site of moral sustenance. It was studied, catalogued and illustrated by the amateur naturalists; enjoyed by the day excursionists; and it presented both a physical challenge and a spiritual refuge for the walker and mountaineer. In Sydney the demand for access to wild and natural places of retreat on the weekends presented a significant problem. This led to several of the walking clubs joining together in the 1920s as the “National Parks and Primitive Areas Council” (NP&PAC) and campaigning successfully for the reservation of bushland for both recreational and conservation purposes (Hutton and Connors, 1999: 67). They claimed “the public’s moral right to the use of Crown lands for bushland recreation”
(Myles Dunphy⁶, cited in Hutton and Connors, 1999: 67). Bushwalkers, like the amateur naturalists, also claimed the mental and moral as well as physical benefits of being in the bush. Hutton and Connors argue that by the early twentieth century there is a certain mutuality between the interests of the bushwalker who considered nature “a sanctuary where people could find their true selves”, and the urban reformers who saw the experience of nature and the refashioning of the city as an antidote to the “commercialisation and industrialisation of urban life” (1999: 61). Typified here by Myles Dunphy’s reflection on the beneficial qualities of bushwalking in his journal, being in the bush involved,

the full application of the all the senses, cultivation of faculty of observation, powers of endurance and self reliance … justify existence by appreciation of open air, life and rational way of living and by spreading the doctrine (cited in Hutton and Connors, 1999: 77).

**Conclusion**

By the twentieth century ‘the environment’ had emerged through a range of discourses. Our modern conception of the environment is rooted not only in the increasingly sophisticated understanding of scientific ecology, but also in an environmental sensibility, which reflects “a romantic, moral cultural attitude towards nature” (Rutherford, 1999b: 101-02). It is an environmental sensibility which

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⁶ Secretary of the NP&PAC and the founder of the Mountain Trails Club in Sydney in 1914, which claimed its purpose was to escape the roads and accommodation frequented by tourists, to walk in the ‘rough country’ (Hutton and Connors, 1999: 64).
incorporates an appreciation of more than natural beauty. By the twentieth century
the aesthetic appreciation of nature was inextricably bound with moral, social and
political concerns about the potential frailty of nature; as well as the conservationist
argument for the need to take action to protect nature for its beauty, as a resource, or
simply to ensure that it is preserved for future human enjoyment and refuge.

As Lanthier and Olivier have observed the development of an environmental
sensibility was critical to the emergence of ‘the environment’ as a subject of
governance and as a matter of general public concern. It was through the
development of an environmental sensibility that the ‘legitimizing set of values’
which underwrite modern environmental governance were laid down (1999: 65).
The emergence of environmental sensibility marked the shift from the dogma of the
early modern period that man rightly dominated nature. Keith Thomas has observed,
“that there occurred a whole cluster of changes in the way in which men and women,
at all social levels, perceived and classified the natural world around them.” He
argues that the “intense interest in the natural world” was developed simultaneously
“with those doubts and anxieties about man’s relationship to it which we have
inherited in magnified form” (1983: 15).
Chapter Four

GOVERNMENTALITY

Framing the Approach

This thesis reflects upon the formation and limitations of legal discourse regarding the subject of the environment, and analyses aspects of legal governance concerning the Australian environment during the last two decades. This is informed by governmentality theory deriving from Michel Foucault and expanded by others\(^1\) who have taken up his work.\(^2\) Prior to undertaking an analysis of the environment as a subject of legal discourse and governance, the premises of governmentality theory are detailed. Aspects of Foucault's approach regarding the process and problematic of rule, which eventually led to his ‘analytics of governance’ (Foucault, 1991a) are briefly considered. This is followed by a consideration of particular interpretations of Foucault's governmentality theory as it has been developed by others. Finally, discussion focuses on how this theoretical approach is useful in the study of law and especially in an analysis of legal governance of the environment.

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\(^1\) The literature interpreting and exploring governmentality is vast and growing rapidly. In particular, see Barry, Osborne and Rose, 1996; Burchell, Gordon and Miller, 1991; Dean, 1999; Dean and Hindess, 1998; Foucault 1991a; Miller and Rose, 1990; Osborne, 1998; Rose, 1989, 1992, 1993, 1996; Rose and Miller, 1992.

\(^2\) This approach has been utilized in specific studies of legal and socio-legal objects, namely crime and criminology, and also more generally. See Cladis, 1999; Ericson and Haggerty, 1997; Garland, 1996; Herbert-Cheshire, 2001; Hunt and Wickham, 1994; O'Malley, 1992, 1998, 1999a, 2004; O'Malley and Palmer, 1996; Pavlich and Wickham, 2001; Rose and Valverde, 1998; Rutherford, 1999a, 1999b, 2000; Van Krieken, 2001.
There are two themes within the governmentality literature that are particularly pertinent to this thesis. First, that from the eighteenth century government acquired a ‘bio-political’ focus, whereby much governance operates ‘at a distance’, rather than simply being exercised through the political and bureaucratic arm of the state. Second, modern forms of government are largely dispersed through a complex matrix of non-political processes and interactions, whereby expertise and certain forms of knowledge are adopted and implemented at the individual and social level (Rose and Miller, 1992: 175). The relevance of these to environment based legal governance is considered within my analysis of governmentality theory. As this thesis discusses law as a technique of governance, it is imperative to closely examine Foucault’s (1991a) ‘Governmentality’ lecture, in which he argues that a normative form of governance had overtaken law. This raises the question, is such a proposal simply over-stated or over-read?

**Lineages of Rule**

Foucault outlines the emergence of the governmentisation of “the problem space of rule”, he identifies ‘three lineages’ of rule, ‘sovereignty-discipline-government’ (1991a: 102). Foucault does not argue that there has been a neat evolution from sovereign rule to a ‘society of governance’. He maintains that rather than each successively merging into the following, they form a triangle whereby respective aspects are involved in the development and process of each lineage.

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3 This is a key theme adopted and developed by numerous scholars, notably, O’Malley, Weir and Shearing, 1997; Rose and Miller, 1992; Rutherford, 1999a, 1999b, 2000; Shearing, 1995.
Sovereignty

Foucault argues that until the eighteenth century the, “art of government remained in a certain sense immobilized. It was trapped within the inordinately vast, abstract, rigid framework of the problem and institution of sovereignty” (1991a: 98). Essentially, sovereignty principally focused on controlling territory and wealth and initially functioned through what Foucault labeled a ‘juridical’ form of rule. Through this, law was a coercive technique imposed from above as edict, rather than a means validating any form of social consensus or norm. Within the sovereignty regime family provided the model of government:

[T]here was a continuity between public power and familial power, or in any case an implicit homology. The dependence in which family members found themselves with respect to their head was not substantially different from that of the family with respect to the men or agencies above it (Donzelot, 1979: xx).

The populace were governed not for their own sake or welfare, but only to the extent necessary to maintain a measure of internal peace and external security.

Discipline

Disciplinary power, a form of micro power operating by non-coercive means, emerged due to the evolution of rule away from sovereignty, and in turn predated the development of a ‘society of government’ (Foucault, 1977). It primarily developed through the practices and routines of institutions, such as monastic
orders, the military and workhouses, and became exercised through hierarchical systems of observation and recording, such as the teacher checking students or the doctor monitoring patients. The role of these observers was to ‘normalise’ by applying judgement and consequent reward or penalty. Thus, in essence, disciplinary power regulated the population and encouraged individuals to become compliant, productive subjects:

The chief function of disciplinary power is to ‘train’ … Discipline ‘makes’ individuals; it is the specific technique of power that regards individuals as both objects and instruments of its exercise … it is not a triumphant power … it is a modest, suspicious power (Foucault, 1977: 170)

Disciplinary power has gradually refined and extended into daily life and general population practices. Within a governmentality frame, the object of disciplinary power is the optimization and productive control of the population as a resource (Dean, 1999). This is achieved via diverse routes, such as the school, factory, medical practice and family. Foucault argues that, in part, the extension and intensification of disciplinary power characterized modernism.

However, in its contemporary form, disciplinary power is dispersed and operates at the individual level within the routine patterns and practices of daily life. Foucault further theorises about this dispersal of power by exploring the operational history of, “the technologies of the self” (Hunt and Wickham, 1994:
In essence, these technologies are a constantly shifting and evolving matrix of expert knowledge, instruction and practice through which certain norms and truths are established and imparted. Thus technologies of the self encourage the individual to constantly seek and develop a particular form of ‘self’. Individuals voluntarily assume these norms and absorb these truths, and in doing so shape and limit their senses and conduct (Herbert-Cheshire, 2001).

Under advanced liberalism, political authorities are able to govern the non-political ‘at a distance’ (Rose and Miller, 1992) precisely because they have appropriated certain technologies of the self which create individuals who are active in their own government. For this reason it is important to appreciate that, within Foucault's work, the conduct of conduct extends as much to the idea of self government as it does to the government of others and, further, that the government cannot be understood in isolation of the either (Herbert-Cheshire, 2001: 28).

**Government**

Foucault argues that the development of a ‘society of government’ was partly dependent upon two simultaneous events, the “emergence of the problem of population” and the isolation of “economy as a specific sector of reality” (1991a: 102). These events operated in conjunction with other factors, which acted to problematise this form of rule. These other factors included shifts in eighteenth century demography, improvements in agricultural production and an increase in

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4 See the *History of Sexuality*, volumes two and three (Foucault, 1985a, 1985b), and latter work (Foucault, 1988, 1991b).
wealth. Within ‘a society of government’ Foucault emphasises the significance of ‘population’, as revealed through statistics, and the emergence of a new apparatus for governing society, namely the science of political economy. Thus, governmentality is a form of rule that targets populations and is exercised through the application of differing knowledge and governmental apparatuses.

Foucault stipulates that the population parameters were largely revealed by statistics or the “set of analyses and forms of knowledge” utilised by the territorial monarchical administration during the sixteenth century and increasingly during the late seventeenth century (1991a: 96). He particularly comments that statistics became a technical force in ‘a society of government’ following the release of constraints characterising the, “monarchical administration that functioned according to the form of sovereignty” (1991a: 99). Statistics revealed:

That population has its own regularities, its own rate of deaths and disease, its cycles of scarcity, etc.; statistics shows also that the domain of population involves a range of intrinsic, aggregate effects, phenomena that are irreducible to those of the family such as epidemics, endemic levels of mortality, ascending spirals of labour and wealth; lastly it shows that, through its shifts, customs, activities, etc., population has specific economic effects (Foucault, 1991a: 99).

By the eighteenth century, population became, “the ultimate end of government” (Foucault, 1991a: 100). Thus, government began focusing upon improving the
conditions and interests of the population, in terms of its welfare, health and aspirations. The population was not only the focus of understanding and amenable to calculation, but also a site of governmental intervention as new knowledge and techniques aiding governance developed. In other words, it became, “an object in the hands of government” (1991a: 100). Foucault surmises that “[t]he perspective of population, the reality accorded to specific phenomena of population, render possible the final elimination of the model of family and the recentring of the notion of economy” (1991a: 99).

Foucault especially emphasises the nexus between governance of the population and the development of ‘political economy’. He argues that “political economy arises out of the perception of new networks of continuous and multiple relations between population, territory and wealth” (1991a: 101). Tadros describes Foucault’s understanding of the interrelation between the three tiers of government:

The economy both provided a description of population and a place where governmental decisions could be organized. Government could intervene tactically into the economy by utilizing laws but it could also do so by adjusting taxation, prescribing standards for education, by building an infrastructure as well as directing moral and religious education (Tadros, 1998: 92).
Thus, the emergence of political economy occurred through an amalgam of knowledge and techniques through which the ‘economy’ and its constituent population was understood, made calculable and subject to intervention.

**Bio-politics and Environmentalism**

Through the presence of ‘a society of government’ a bio-political focus and form of governance developed. Bio-power is multifaceted it operates through the normalising process of disciplinary networks, which shape the conduct of individuals in particular institutional contexts. It is immanent in self governance and formation, but it also operates at a distance upon populations, through the development, dissemination and application of expert knowledges such as statistical analysis, risk assessment, economic forecasting, public health initiatives, and regulation of the market. Rutherford observes that:

> It was the conjunction of the modern biological understanding of life and the proliferation of medical and social scientific knowledge as normalizing disciplines that brought forth a qualitatively different, distinctively modern biopolitics. For Foucault, the rise of biopower, from the eighteenth century onwards, represented quite literally the ‘entry of life into history’ (2000: 116).

Bio-politics particularly emphasises population governance, in terms of health, prosperity, security and welfare. Rutherford directs us to Foucault’s contention that the trajectory of bio-politics has led to a new understanding of rights, these include “The ‘right’ to life, to one's body, to health, to happiness, to the
satisfaction of needs, and beyond all the oppressions or ‘alienations’, the ‘right’
to discover what one is and all that one can be” (Foucault, 1990 cited in
Rutherford, 1999a: 43).

Rutherford argues that implicit in Foucault’s theorisation of the “biopolitical
regulation of populations”, is the governance of the environment of which those
populations are an integral part (2000: 120). Indeed, in the eighteenth and
nineteenth centuries, Rutherford argues, a “new discourse that had as its object
what today we call the environment” developed along side other population
related discourses concerned with “health, criminality, education, sexuality etc”
(2000: 128). The principal focus of Rutherford’s own work is the development
and application of Foucault’s theorisation of ‘biopolitics and governmentality’ to
examine how:

The way in which the political and economic problematization of
populations also gave rise, in more recent times to times to a similar
problematication of nature and the environment (Rutherford, 1999a: 45).

Rutherford articulates a genealogy of modern ecological thinking and practice,
which he contends has both constituted the environment as a focus of biopolitics
and determined the shape of environmental governance (1999a, 1999b, 2000).
He says:

Thus, the development of scientific ecology, particularly systems
ecology, provided both a guiding political rationality and the technical
apparatus of calculation and assessment that by the late 1960s began to make possible a form of regulatory science that was capable of governmentalizing society-environment relations … (Rutherford 1999b: 113).

In essence, Rutherford argues that a new form of politics, namely environmentalism, has developed through ecological modernization. This has enabled the formulation and exposition of the potential and limits of environmental governance and the form that governance should take (Rutherford, 1999b). The significance of scientific and ethical ecology in shaping environmental discourse and governance is considered in some detail in the following chapters.

In examining the processes through which legal governance and legal understandings of the environment have been produced, this thesis also considers how these legal formulations are conversely influenced by non-legal discourse about the environment. An example is provided by the governance of human centred environments, where public health issues are at stake. In this context, environmental governance does not simply entail control of physical space, but efforts at directing the use and inhabitation of physical environments. Whilst some practices and purposes are deemed healthy and are consequently valorised, others may encounter restrictions because they pose a risk to the future use of the space. Petersen and Lupton have itemised various areas and approaches that contemporary public health governance may encompass and implement:
such concepts and strategies as health promotion and health education, social marketing, epidemiology, biostatistics, diagnostic screening, immunisation, community participation, healthy public policy, intersectoral collaboration, ecology, health advocacy and health economics (1996: 5).

These strategies involve a degree of cooperation between citizens, state agencies, health experts and community organisations. In addition, there is an attempt to convince people and institutions to voluntarily adopt healthy practices, rather than depending upon a top down governance method. Even legislative regimes, which are part of various public health management schemes, are not necessarily directive or prescriptive. Administrators have the discretionary scope to negotiate the tolerability of specific activity. Nevertheless my discussion will demonstrate that environmental legal governance has not been entirely displaced by increasingly cooperative or voluntarist governance strategies.

**Conjecture and Critique**

In recent times, there has been an abundance of literature analysing and redeveloping those concepts and ideas central to governmentality theory as constructed by Foucault. O’Malley offers the following understanding of governmentality:

While ‘governmentality’ refers to a particular technology of government that emerges in the eighteenth century, the term is more generally used to refer to the approach adopted in its study. [This involves an emphasis on]
the dispersal of ‘government’, that is, on the idea that government is not the preserve of a ‘state’ but is carried on at all level and sites in societies-including the self government of individuals … (1999b: 679 n.7).

Similarly, Van Krieken argues that Foucault incorporated the concepts of ‘government’ and ‘governmentality’ in order to capture the assumed choice of all liberal governance subjects (2001: 13). As Foucault (1993) states, government is:

Not a way to force people to do what the governor wants; it is always a versatile equilibrium, with complementarity and conflicts between techniques which assure coercion and processes through which the self is constructed or modified by himself (as cited in Van Krieken, 2001: 13).

Dean accounts for the process of government by stating:

[G]overnment entails any attempt to shape with some degree of deliberation aspects of our behaviour according to a particular set of norms and for a variety of ends. Government in this sense is an undertaking conducted in the plural. There are a plurality of governing agencies and authorities, of aspects of behaviour to be governed, of norms invoked, of purposes sought, and of effects, outcomes and consequences (1999: 10).

Accordingly, the process of government is neither neat nor readily delineated. It involves the operation of various congruent and contradictory rationalities and
disciplines, including law, that are contingent upon and often resistant to one another. As Dean explains:

Within in any given society, there is a large, but finite, number of intermeshing regimes or practices. … The existence of such regimes of practices makes possible borrowings across these regimes themselves, and forms of cooperation, overlap, intersection, fragmentation and contestation between them. One regime may attempt to colonise and subjugate another … (1999: 21).

In addition, O’Malley delineates an understanding of the possibilities, contingencies and operations of government. He characterises governmentality theory as deploying:

[An] analytic stance that favours ‘how’ questions over ‘why’ questions. In other words it favours accounts in terms of how government of a certain kind becomes possible: in what manner is it to be translated into practice, using what combination of means. Only secondarily is it concerned with accounts that seek to explain government – in the sense of understanding the nature of government as the effect of other events (1999b: 679 n.7).

Largely, governmentality theory is concerned with the contingent relationship between knowledge and power; thus, with analysing specific discourses and associated spaces within which differing knowledge and forms of thinking
interrelate and resist each other. This is exemplified in legal and non-legal interpretations and explorations regarding governance of the environment.

**Law and the State**

In understanding governmentality theory, law cannot be simply posited as an adjunct of central state power or an elite site of power that exists beyond the influence of non-legal practices and agendas. According to Dean “[l]aw is treated as another means of and site of governance, a position which refuses the idea of law as some special area that influences government as an external force” (1999: 29). In other words, law operates beside other mundane governance techniques and apparatuses, rather than as a privileged and overarching agent of state power.

The analytics of governance approach, outlined by Dean (1999) and O'Malley (1999b) both decentres law and recognises that the creation and practice of legal entities stems from a plurality of sites and range of players who are driven by differing interests. This interpretation of law extends beyond the limitations of the black letter lawyer’s imagination and the assumed rationality of legal thinking and practice.

While the governmentality theory which has developed following Foucault’s lead offers a useful basis for examining how the environment has become a subject of legal governance, Foucault’s (1977, 1980) own understanding of the function of law is problematic. His tendency is ‘to marginalise law’ and assert the greater significance of disciplinary power (Hunt and Wickham, 1994: 59). The discussion in the governmentality literature of this issue is of some interest.
because of its focus on the specific function of law as a technique of modern governance. Foucault’s marginalisation of law stems from his insight that by the latter half of the nineteenth century modern forms of governance, rather than primarily being driven by law as the agent of a juridical form of power, are dispersed throughout a range of social institutions and disciplines such as the family, the school, the factory and workshop, the practices of accounting, psychiatry and medicine (Hunt and Wickham 1994: 65). Hunt and Wickham argue that for Foucault,

disciplinary power lies outside sovereignty and thus does not depend on the centralised power of the state. It is in this sense that he describes the disciplines as being a ‘counter-law’ which operates ‘on the underside of the law’ (1994: 65).

Hunt and Wickham argue that by insisting upon a ‘strict separation’ between law and the command and control of sovereign power, Foucault denies “the self-evident truth of the intimate connection between modern forms of power and legal mechanisms” (1994: 62-3). They remain unpersuaded by this ‘expulsion of law’ argument and observe that, “Foucault’s tendency to marginalise law contrasts sharply with the drift of twentieth-century thought that has invested law with an increasingly central role in modern society” (1994: 59). Hunt and Wickham suggest that rather than insisting on the expulsion of law it is more useful to examine its role as one of a number of negotiated instruments or tactics of government in the late modern period:
The whole field of social regulation involves an ongoing process of expansion and contraction of the sites of regulation and the advance and withdrawal of different regulatory techniques (1994: 67).

Hunt and Wickham claim that Foucault’s stipulation that law is displaced by disciplinary power is not based upon the actual occurrence of law, nor its role in government following the transition to modernity, but is a rather overstated and argumentative tactic that requires Foucault, “to clear the space for a new thesis” (1994: 60). They further argue that Foucault employs a quite limited conception of law in stating that, “laws decrees and regulations” were the “traditional weapons of sovereignty” (1991a: 98). In taking such an approach, they argue, Foucault equates law with negative proscription and derives a, “literal connection between political sovereignty and juridical sovereignty” (Hunt and Wickham, 1994: 60-61).

According to Hunt and Wickham, this conception of law denies the significance of its complex development over the last three centuries, and specifically the influence of various specialist tribunals and courts that became alternate sources of law to sovereign will (1994: 60). Foucault’s account also focuses too readily on criminal law and allots little attention to the vast body of law that regulates such matters as the administration of government, commercial, kinship and property rights, which became an integral part of modern state governance (Hunt and Wickham, 1994: 60). In addition, in his analysis of the criminal law Foucault does not recognise the developments in the procedures through which the criminal law is imposed and understood (Hunt and Wickham 1994: 60). Hunt
and Wickham stress that it is Foucault’s overall commitment to the idea that sovereignty and law are closely linked that undermines many of his contributions regarding the role of law. They state that his argument is:

At best unhelpful and at worst simply perverse in denying the self evident truth of the intimate connection between modern forms of power and legal mechanisms. … We suggest that legal rights always exist in tension with the exercise of governmental power (1994: 62-63).

Dean (1999) does not undertake any historical scrutiny of Foucault’s position on law and contributes a less critical account. Rather, he is concerned with rehabilitating Foucault’s claims, in order to seemingly facilitate the development of governmentality as a theoretical tool. Dean argues that Foucault endows law a positive function as an essential governance technique in modern liberal society. As he stipulates:

Foucault’s argument that we have entered into a phase of ‘juridical regression’ despite the proliferation of the framing of constitutions, codes and the ‘whole continual and clamorous legislative activity’, is an assertion that the function of law as a coercive technique of sovereignty has been displaced and reinscribed in its role in normalising power (1999: 119).

By Dean’s reading of Foucault, or at least the governmentality literature following his work (Ewald, 1990), law affords a process through which
agreement may be reached, “regarding the choice of norms and standards” (1999: 119), rather than being a coercive edict imposed from above. Dean surmises:

The kind of law that is compatible with normalizing practices is one in which laws are produced with reference to the particular society it claims to regulate and not to a set of universal principles. For Ewald, this kind of law no longer emanates from the sovereign’s will but from the collectively without being willed by anyone in particular (1999: 119).

Anne Barron argues that the concept of the “state as the unitary agent of intervention and control over civil society” is no longer tenable as “state power has been dispersed within a network of relationships which defy any rigid differentiation of ‘state’ from ‘civil society’” (1990: 107). She further comments that modern civil society is not bound by any common ideal or purpose and is driven by differing interests, social practices and endeavours that are coexistent though diverse in operational sphere and concerns. Barron states that “social unity cannot therefore be understood in terms of a general will, made manifest in parliament, and enforced in law” (1990: 108).

Alternately, in discussing legal informalism, Van Krieken argues that the late twentieth century ‘conceptual shift’ in theories of power, in which there is an “increased willingness to see power in liberal societies as extending beyond the state, and as residing in the relations of overt governance, law and domination” (2001: 12), significantly implicates the ideas expressed by Foucault. According to Van Krieken, Foucault's project did not intend to expel law but to situate it
within the, “real location of the everyday exercise of power in seemingly mundane, informal and ordinary practices and agencies” (2001: 13). In other words, law is not to be understood as a privileged site of power, and instead, “it would be better to try and identify the different techniques of constraint that brings it in to play” (Foucault, 1997a, as cited in Van Krieken, 2001: 13).

As Dean observes, any analysis of law or government site needs to articulate:

The means of calculation, both qualitative and quantitative, the type of governing authority or agency, the forms of knowledge, techniques and other means employed, the entity to be governed and how it is conceived, the ends sought and outcomes and consequences (1999: 11).

Within this thesis, law is discussed as a ‘technique of governance’, it is a practice and way of thinking and acting that consistently adopts and depends upon specific forms of knowledge, calculation, representation, notation, modes of discourse and training. This approach actively highlights the way that law problematises, shapes and constitutes the conduct, sites and populations that it attempts to govern (Dean, 1999). In discussing law as a technique of governance, a necessary focus of inquiry concerns the identification of those factors that have enabled the emergence of certain forms of legal understanding, thinking and practice. An example of this comprises the legal governance of the environment.
Interpreting the Environment

Malpas and Wickham observe that “[o]bjects are not merely defined by the governing practices under which they are taken up, but are themselves defining of those practices” (1997: 94). In considering the environment, it is clear that it is a different legal subject compared to the autonomous, rational and legally capable individual. Whilst the individual can claim possession of substantive legal rights, the environment is a shifting entity and remains the subject of conflicting interests, constant negotiation and administrative discretion.

Conceptions of what an environment entails, whether it has been compromised and the impact of various programmes of environmental governance reside outside of legal discourse. Thus non-legal factors influence any attempt at shaping environmental legal governance. Environmental law is not simply delineated by the court, legislature or law reform commissions, it is also constantly shaped and transformed by actors and agencies beyond those sites normally associated with law formation. For example, scientists, factory managers, bureaucrats, unionists, environmentalists, lobby groups, consumers and the media have varying interests and involvement in particular objectives and forms of environmental legal governance. At any time some of those interests are congruent, in conflict or privileged, depending upon the state of the law or the background of any presiding legal body.

Environmental disputes involve a range of stakeholders who employ knowledge from differing disciplines and perspectives. Roslyn Taplin, an expert in environmental policy making, observes that:
Environmental disputes typically centre on differences in technical, professional, scientific and economic perspectives, and judicial inquiries focus on fair procedure and analysis of the substance of evidence given by experts. Ultimately, however, political decisions have to be made by governments (1992: 156).

The dynamic nature of legal discourse is exemplified in the formation of modern environmental law. This involves the development of appropriate legal decision making formulations and intervention strategies, and of persuasive arguments and claims by stakeholders for application in the legal forum. This multiplicity of factors, which combine to shape environmental legal discourse, necessitates a focus on the analytics of legal governance, rather than simply on the content of legal rules, which is the obsession of orthodox legal commentary. According to Dean:

An analytics of government attempts to show that our taken-for-granted ways of doing things and how we think about and question them are not entirely self evident or necessary. An analytics of a particular regime or practices, at a minimum seeks to identify the emergence of that regime, examine the multiple sources of the elements that constitute it, and follow the diverse processes and relations by which these elements are assembled into relatively stable forms of organisation and institutional practice (1999: 21).
Governmentality theory reveals the technique of law and makes transparent the process through which legal claims become associated with a truth and are privileged. Taplin’s discussion of a 1979 judicial inquiry headed by a retired NSW Supreme Court judge, the Hon Simon Isaacs QC, attempting to resolve a conservation dispute involving the Terania Creek rainforest, reveals some of the complexities at play. She comments that in assessing whether the forest should be open to logging or protected as a site of environmental significance, Isaacs failed to appreciate the value of scientific evidence contributed by environmentalists and ecologists (1992: 160-3). She argues that Issacs was unable to engage with the evidence as he failed to move beyond his adversarial lawyer mindset. Taplin specifically observed that he became, “frustrated with what he concluded was inconsistent evidence” when witnesses were reluctant to claim there was absolute scientific certainty on some contentious issues (1992: 162-163). Taplin further states that:

Isaac treated the scientific theories and the professional doctrines put before him as being ‘facts’ to weigh up, seeking to deduce which facts were correct so as to derive a ‘true’ picture of the ecological status and thus the worthiness of environmental protection of the Terania Creek forest (1992: 168).

Taplin surmises that “Isaacs did not appreciate the subtleties of the process of scientific thought and knowledge” (1992: 169) prominent within the inquiry approach, and due to this, Isaacs ultimately recommended in favour of logging. Taplin’s argument is not so much concerned with Isaacs’ overall finding, as with
the process Issacs utilised in reaching that position. Her conclusion is that judicial inquiries are not a useful adjunct to environmental governance (1992: 175-79). Since 1979, however, judicial inquiry techniques and the terrain of legal discourse have become increasingly expert and open to environmental dispute resolution, though not without difficulty and contention. The growing role of environmentalism has forced an interchange of sorts between what are otherwise quite disparate ‘regimes of practice’ (Jeffery, 1988; Wilcox, 1992).

Analysing such interactions and the kinds of decisions then reached promotes understanding of how the environment becomes subject to legal discourse, for as Dean comments:

An analytics of government thus views practices of government in their complex and variable relations to the different ways in which ‘truth’ is produced in social, cultural and political practices. … We thus govern others and ourselves according to various truths about our existence and nature as human beings. On the other hand, the ways in which we govern and conduct ourselves give rise to different ways of producing truth (1999: 18).

The revelation of the technique of law, through governmentality theory, provides this thesis with the means to examine ‘how’ the environment has become a subject of legal governance.
Risk a Heterogeneous Concept

Douglas and Wildalsky (1982) have observed that in practice the environment is a pivotal focus of popular risk anxiety. People are afraid of “nothing much … except the food they eat, the water they drink, the air they breathe, the land they live on, and the energy they use” (as cited in Lupton, 1993: 425). The environment as a legal subject is partially revealed by reflecting upon the nexus between the conceptualization of risk and the legal domain in terms of the adjudication of disputes involving potential environmental harm or toxic environmental hazards. A discussion of contemporary legal governance of the environment needs to consider how risk is conceptualised.

While many writers on risk agree that the concept of ‘risk’ is a preoccupation of late modernity, there is no single understanding of risk or its relevance to social organisation. Governmentality theorist Lorna Weir (1996) observes that the concept of risk is heterogeneous. That is, various claims or arguments regarding the condition of the material world, politics and social institutions, and individual understandings of self are founded upon perceptions of the effects of risk (Lupton, 1999:14).
The notion of risk will have a quite different function and meaning in different domains. Risk is a quantitative, techno-scientific calculation which measures the probability of an event occurring. Risk is a label which is attached to hazard, danger and uncertainty in both a scientific and in an everyday sense. The concept of risk is employed readily in everyday discourse and mediates the relationships people have to certain activities (Lupton, 1999). It is culturally constructed as the focus of a certain type of anxiety (Douglas, 1992). Risk is a commodity that is traded. It is the possibility which produces the adrenalin rush of extreme sports. Risk is also considered to be a socially constructed notion which shapes decision and policy making (O’Malley, 2004). The notion of risk is employed in a legal sense as a means of legally constructing the limits of liability and responsibility (Steele, 2004). None of these understandings of risk is isolated from the other. Different knowledges of risk, such as the scientific and the everyday, are often conflated in particular contexts, such as the court room, to create wholly unique means of understanding risk suited to a particular task, such as assigning legal liability (Valverde, Levi and Moore, 2005: 86). Legal theorist Jenny Steele observes that:

In general, the appearance of a broadly shared theoretical interest in ‘risk’ is apt to mislead. Common use of this shared term masks huge variation in what is thought significant about it. In particular, theorists using the term ‘risk’ are divided in whether the most significant thing about this term is thought to be the threat or uncertainty which it implies, or else (on

overview of theoretical perspectives that define risk see Lupton, 1999; O’Malley 2000a; Steele, 2004.
the contrary) the means of responding to threats and uncertainties which its use brings with it (2004: 3).

References to the ‘risk society’ are not uncommon in the legal literature on environment (Havemann, 2003; Jasanoff, 1995; Lee, 2000; Peel, 2005). These are usually in essays arguing that the law needs to be cognisant of shifts in social and political conditions if legal processes are to be just and efficient. Take for example Lee:

Tort law theory is filled with ideas of loss distribution and risk allocation, but in risk society we may see responses by individuals to their own patterns of risk and their own place with in the risk society which will challenge the social foundations of industrial society. It is idle to think that legal rules or institutions will be exempt from such restructuring (2000: 83).

In this chapter two competing understandings of risk are discussed and compared as background to the two case studies discussed in Chapters Six, Seven and Eight. The first is the sociological theory of the ‘risk society’ propounded by Ulrich Beck (1992b, 1999), which treats risk as the ontological reality of late modernity. Beck argues that the prevalence and uncertainty of large scale environmental risks, such as the hazards of nuclear and bio-technology, have transformed politics. The failure to control risk has, Beck argues, undermined the authority of established institutions. It has, in part, produced the conditions for the emergence of critical reflexivity through which people, individually and in
new associations, challenge the assumed benefits of industrialization and technological innovation. The other approach to risk, which will be considered, is typical of those working within a governmentality framework. Unlike Beck’s ‘risk society’ thesis, the governmentality approach does not posit risk as real, rather it is a product of certain forms of thinking and calculation. As Dean observes, risk is not simply a label attached to certain hazards, “[r]isk is a way - or rather, a set of different ways - of ordering reality, of rendering it in a calculable form” (1999: 177). The interest of the governmentality theorists is in analyzing the ways risks are calculated in order to govern various aspects of life. The underlying assumption of the governmentality approach is that the concept of ‘risk’ is heterogeneous. The technologies through which risk is articulated are not uniform, and the domains of risk based governance are diverse and underwritten by similarly diverse conceptions of risk.

While Beck’s work points to a shift in societal attitude to risk and a critical reflexivity about relationship between humans and the natural world, which increasingly impacts on legal attitudes and processes, the governmentality approach facilitates a closer examination of how the law engages with and assimilates various discourses and practices of risk. The governmentality approach is particularly apposite to an analysis of the legal construction of environmental risk because of its emphasis on the heterogeneous conceptualization and application of risk. The pragmatic focus of the courts in resolving environmental disputes means that they will often engage with, and

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126
even conflate, quite diverse calculations and assessments of risk in a single case. Steele argues that:

‘[R]isk’ has been increasingly associated with a focus on the individual, both in terms of choice and to some extent in terms of responsibility. Against this background, the environmental context appears to be distinctive because here, recognition of subjectivity, diversity, and even critical independence in respect of risk, has come hand in hand with increasing ambitions to achieve some sort of ‘control’ over hazard creation (2004: 160).

There is however common ground between these two approaches to risk, as each is principally concerned with examining how risk shapes conduct. Each extrapolates on the significance of technical calculations of risk and epistemological claims about risk, as well as everyday understandings of risk and cultural constructions of risk. Both approaches offer insight useful in the examination of how the environment is conceptualised in a legal sense through the figure of risk.

Elements of each approach to risk are taken up in the two case studies studied here, both of which explore the calculations and contingency which characterise environmental governance. The next chapter examines how environmental public interest advocates, such as the Australian Conservation Foundation, have formed and attained stature, not by simply lobbying government on the environment but by synthesizing public concern regarding the environmental problem through
scientific expertise, allowing the auditing of potential risk to certain environments. Following that, Chapters Seven and Eight consider how toxic tort litigation takes up and assimilates four quite different conceptions of risk: the scientific, the insurantial, the clinical, and popular everyday notions of risk. These two chapters reflect upon how the law functions as ‘a site of definitional struggle’ of risk (Havemann, 2003: 38), as well as reflecting upon the key practices which produce and organize the legal conception of risk operating in toxic tort litigation.

Risk – Label and Calculation

A significant distinction between Beck’s and the governmentality approach to risk concerns the conception of risk as either a label for material reality or a product of technical calculation. Douglas argues that this distinction is blurred because although probability calculations may be implicated in the identification of risk, “[t]he original connection is only indicated by arm-waving in the direction of possible science: the word risk now means danger; high risk means a lot of danger” (1992: 24, original emphasis). In addition, Lupton observes that the popular or colloquial application of risk tends to assume, though not necessarily reflect, the calculable probability of a risk. In an everyday sense, certain types of danger such as the hazard of nuclear fallout, the inhalation of asbestos fibre or the chance of catching bird-flu are perceived as ontological realities, which we describe as ‘risks’ (1999: 9). Accompanying perceptions or beliefs in such risks is the product of a certain collective anxiety (Beck, 1992b; Douglas, 1992; Havemann, 2003).
Calculating Risk

Early modern developments in the science of probability and statistics made possible actuarial assessments of risk. These avoid an understanding of risk as a thing and tend to favour an understanding of risk as technical; thus, as a mode of defining or calculating the possibility of an event occurring (Castel, 1991; Ewald, 1991; Hacking, 1990; O’Malley, 2004). On this Ewald contends that “nothing is a risk in itself; there is no risk in reality”, rather risk is created and constructed through calculation (1991: 200). Steele observes that risk calculation is a technique that “makes it possible to take rational action despite lacking certain elements of knowledge … and understanding of certainty structured in terms of ‘risk’ allows us to plan our actions despite not knowing how the future will turn out” (2004: 18).

Governmentality theories focus upon how risk is employed as a “category of our understanding” (Dean, 1999: 177). The existence of risk is realised through certain knowledges that makes it “thinkable, such as statistics, sociology, epidemiology, management and accounting” (Dean, 1999: 178). Thus, this approach does not seek to advance claims that totalize or make uniform the notion of risk. Rather it seeks to identify and delineate an understanding regarding the construction and implementation of risk as a heterogeneous concept. Governmentality theorists are interested in deciphering the influence of

3 Although the governmentality approach to risk intends to stand apart from Beck’s conceptualisation of the risk society, O’Malley contends that nevertheless, the governmentality theorization of risk: “[H]as been touched by the spirit of the risk society thesis. In particular, it has been characterized by the accumulation of studies identifying new examples of risk based governance and new domains into which they have encroached. This focus readily gives rise to a
risk upon human activity, namely how “we know and act upon ourselves and others today in a range of moral and political programmes and social technologies” (Dean, 1999: 182).

A primary focus of the governmentality approach concerns unpacking and isolating how risk rationalities are applied and function through various technologies and practices, from the insurance calculus of probabilities (Ewald, 1991) to the clinical interventions of neo-natal health care regimes (Weir, 1996). Governmentality theorists have explored how risk discourses in combination with particular scientific techniques, such as epidemiological risk assessment across populations and clinical risk assessment of individual patients, influence an individual’s understanding of self, their consumption and relationship to their social environment (Dean, 1999; Lupton, 1999; O’Malley, 2004; Weir, 1996). Specific risk techniques may have wholly different applications in different contexts, for example epidemiologists employ a particular set of quantitative techniques to assess, monitor and predict the rates of ‘morbidity and mortality among populations’, on the basis of epidemiological calculations certain practical public health interventions, such as mass immunisation or the control of smoking in public places are initiated. While the ethos of scientific epidemiology is preventative, when this same epidemiological data is introduced as evidence of the risk of disease in a toxic tort case it takes on an entirely different role it allows the court to determine whether toxic exposure was known to be hazardous and in turn whether a plaintiff is owed restitution. Dean specifically points out

sense – albeit implicit – that other technologies of governance are in retreat before the inexorable advance of risk” (2000b: 461).
that governmentality theorists do not assume that risk rationality “exists as an ideal construct. This leads to … the requirement that we investigate the technical and practical dimension of governing risk” (1999: 184).

Labeling Risk

The sociological approach to risk, pioneered by Beck (1992a; 1992b) and Giddens (1991, 1994), stands in stark contrast to the approach adopted by the various governmentality theorists discussed above. The focus of these sociological theories is not on the method by which risk is articulated, but on how risk has brought about a societal shift. Beck does not deny that risk is calculated through a variety of techniques. Indeed he contends that the prevention of risk is such that attempts to govern through expert risk assessment and management have multiplied in the latter part of the twentieth century. However, Beck does not differentiate between different forms of risk calculation. The focus of his argument is that, at best they are ineffectual, and at worst, an attempt to mask the truth that the risk of unpredictable environmental catastrophe is incalculable and cannot be controlled (1992b: 19-22).

Various commentaries, understandings and references to Beck’s notion of the risk society tend to situate it as a relatively straightforward argument, whereby risk is a demon that cannot be effectively governed at the individual or social levels. However, Beck is arguing that society has been transformed, rather than overwhelmed, by the prevalence of risk⁴. He says that the combination of exposure to an ever increasing type and scale of risk, and the highly ‘scientised

⁴ Although Beck also seems to hold that the potential for risk to overwhelm is ever present.
consciousness’ of advanced technical society has produced a certain form of ‘reflexivity’ at both the level of the social and the individual. He points to what he calls a ‘sub-politics’ through which individuals and alternative political groupings, relying on forms of counter-expertise, challenge the key premises of industrial and technological expansion, in particular the acceptability of ecological risk (1992b:40):

[T]he virtuality, the ‘becoming real’ … of large-scale hazards, risks and manufactured uncertainties set off a dynamic of cultural and political change that undermines state bureaucracies, challenges the dominance of science, and redraws the boundaries and battle lines of contemporary politics (Beck, 1999: 150).

Beck argues that a direct result of the heightened awareness of ecological and technological risks is the general lack of consensus regarding the necessity of technological and industrial expansion. In response, there exists public concern and an increased demand for the auditing and accountability of public or private bodies and corporations that engage in and apply technological, scientific and industrial innovation, which potentially exposes society and individuals to ecological risk and other harms (1992b: 56-7). This reflexive position is evident within and between disciplines through ‘definitional’ contest over what constitutes acceptable and unacceptable risk (Beck, 1992b: 28). In other words, society has entered a period of ‘reflexive modernisation’. In considering this, Havemann states:
In the reflexive risk society, science’s monopoly on rationality is broken. Old epistemic frameworks – such as the relations of definition based on ‘Either/Or’ Enlightenment scientific rationality, Left or Right economic determinism, and individualized liability based on the foresight of the causes and effects of harm -and technological- authoritarian governance are inappropriate and inadequate for managing risks that threaten life on the planet (2003: 24).

Lupton observes that ‘[t]he political aspects of risk and the self-critique that is inspired by risk are pivotal to Beck’s concept of risk society’ (1999: 65). Indeed, Beck argues that within the risk society ecological conflicts have become so significant that they have taken on “the character of doctrinal struggles within civilisation over the proper road for modernity” (Beck, 1992b: 40). As a result, in western society at least, the distribution of wealth and resources has assumed a secondary place to the dissemination of risk, and the latent, unintended, unforeseen and potentially uncontrollable hazards and side effects of scientific and technological expansion (Beck, 1992b: 19-22).

**Critical Annotations**

At this point, it is useful to recognise that, in positing the risk society as different from industrial society, Beck (1992a) moves beyond theorizing about the social production and cultural constitution of risk and conveys risk as an ontological reality (Dean, 1999: 181). He claims that real risks, such as the hazards of nuclear power, the destruction of the ozone layer, or the unanticipated effects of the application of chemical and biotechnologies, have, in a global, temporal and
spatial sense, become “beyond calculation and control” (1992a: 102). The limit of the danger these types of mega-risks present cannot be foreseen, nor can that danger be judged against any existing normative standard, compensation may not be possible, and security against the consequences of such risks actualising cannot be planned for or guaranteed (Beck, 1992a: 102). In other words, according to Beck, real risks are no longer subject to or remedied by the “‘four pillars of the calculus of risks’ - compensation, limitation and security and calculation” (Beck, 1992a: 102).

Beck’s polemical insistence upon the totalizing and incalculable quality of risk is at odds with the governmentality approach, which assumes that, “[t]o say that risk is calculable is to say that it is a form of reasoning that allows us to make events calculable in a specific way” (Dean, 1999: 184) and thus to understand and manage those events by certain means and not others. Dean is critical of the central assumptions of Beck’s risk society thesis, and contends that “risk and its techniques are plural and heterogeneous and its significance cannot be exhausted by a narrative of a shift from a quantitative calculation of risk to the globalization of incalculable risks” (Dean, 1999: 191). Similarly O’Malley argues that Beck’s thesis assumes the “social generalization and saturation” of risk and fails to consider whether the structuring of peoples “identities, biographies and solidarities” through risk consciousness, is actually an empirical question (1999c: 144). Dean adroitly delineates the principal difference in Beck and Ewald’s approach to risk:
If we make a distinction between modes of calculating and objective conditions, Beck's risk society is more properly conceived as one in which there is an increase in dangers arising from the development of the productive forces. For Ewald, by contrast, risk is a form of rationality, a way of thinking about and representing events (1999: 183-84).

In sum, governmentality theorists argue that the institutional spread of risk-focused governance is a product of the way government comes about, rather than because late modernity has become a ‘risk society’ (O’Malley, 1999c; Miller and Rose, 1990).

**Theoretical Engagement – Common Ground**

Despite this divergence between Beck’s ‘risk society’ thesis and the governmentality approach to understanding risk, Rutherford (1999a, 1999b, 2000), Dean (1999) and Ericson and Haggerty (1997) have each engaged with certain aspects of Beck’s sociological account of risk within an analytics of government framework. Of special interest for this thesis is Rutherford’s work, which traces the emergence of the environment as a problem of government. He examines the common theme of social theorists, such as Beck (1992b) and Eder (1996), who focus on “the problem of the social relation to nature in contemporary western society, and the ways in which modern scientific knowledge and expertise shape the distribution of power” (Rutherford, 1999b: 111-12).

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5 Ericson and Haggerty argue that risk communication is the predominant focus of modern policing (1997: 127)
Rutherford adopts Beck’s argument that modernity is characterized by “a growing critical-reflexive awareness of risks” (1999b: 104), which has led to political decentralization and the transformation of politics in the risk society (1999b: 106). He makes two significant observations about how risk is implicated in the modern governance of the environment, both of which stem directly from Beck’s ‘risk society’ thesis. The first, is that hazards and risks are defined and evaluated “through a matrix of ‘quasi-governmental power positions’ incorporating debate among scientific experts, juridical interpretation in the courts, and comment in the mass media” (1999b: 105). The second, is that through what Beck would call a ‘sub-political’ process individuals and groups situated outside of politics, such as social movements and counter-experts, acquire knowledge not necessarily commensurable with mainstream science or politics and challenge the ‘relations of definition’ through which risks are calculated and understood (1999b: 106).

Despite embracing these key premises of Beck’s argument, Rutherford nevertheless contends that Beck’s understanding of risk needs to be tempered if it is to be useful as a theoretical tool. Rutherford argues that Foucault’s genealogical approach, which posits any conception and development of social relations within specific historical operations of political rationalities, may retrieve some of Beck’s theoretical insight from his tendency to ‘generalize and totalize’ (1999b: 112). For instance, whilst acknowledging the significance “of contemporary scientific ecology as a mode of regulatory science”, it is also
necessary to recognise that it is “one such rationality among a plurality of discourses” (1999b: 112).

Dean (1999) also explores the possibility of a useful nexus between Beck’s sociological account of risk and a governmentality analysis of risk rationalities. Whilst Dean largely rejects Beck’s totalizing approach to theorising risk, he does adopt, as Rutherford has, Beck’s idea of ‘reflexive modernity’. He considers it potentially useful because “it begins to identify a line of emergence that is unintended but involves contests over the status of knowledge” (Dean, 1999: 180-81). It is through these knowledge contests, Dean argues, that we might better understand shifts in the process and focus of contemporary government (1999: 178-79).

Importantly, both Dean and Rutherford interpret Foucault’s view of power relations, including the analytics of government following Foucault, as “agonism … dynamic, and therefore always potentially unstable” (Rutherford, 1999b: 112), and find some similitude between this and Beck’s argument that risk society is characterized by a ‘sub-politics’. Rutherford contends that certain aspects of Beck’s sub-politics “can be seen as resistance to the dominant understandings of nature, what Foucault describes as ‘an insurrection of subjugated knowledges’” (1999b: 112).

Dean further argues that in the late twentieth century, risk has been “to some extent desocialized, privatized and individualized” (1999: 191). He suggests that it is possible to perceive this process as shaping or forming the ‘new terrain’ for a
politics of ‘contemporary pluralism’. In some respects, contemporary pluralism resembles Beck’s notion of the sub-politics produced by the risk society, in which those not associated with one another or considered political actors become so in response to a growing awareness of risk:

Looked at from ‘top down’ those identified as ‘at risk’ or ‘high risk’ – those who compose the ‘targeted populations’ – are to be empowered or entered into partnership with professionals, bureaucrats, activists and service providers. With the help of markets – often governmentally contrived – in services and expertise, these targeted populations are enjoined to recognize the seemingly natural bonds of affinity and identity that link them with others and to engage in their own self management and political mobilization. … From below, these aggregations appear as consumer organizations, citizens’ initiatives, social movements, cultures and subcultures, and perhaps above all, as communities, resisting and opposing decisions of authorities, claiming rights, contesting the claims of expert knowledge, and demanding consultation over planning and services tailored to their needs (Dean, 1999: 192).

Dean’s description of politics is inherently more complex than that detailed by Beck. It involves recognition that the political process is increasingly determined and produced by the disciplines and techniques that act upon and calculate risk, rather than by a simple appreciation of risk within itself. Through these processes, “groups of various kinds have come to understand themselves, their futures and their needs in terms of risks, with the assistance of a range of
specialists and tutors in the identification and management of risk” (1999: 192). An example of this dynamic is evident in the Federal Court case in which the Australian Federation of Consumer Organisations (AFCO) sought to be allowed to participate in a conference convened by the Trade Practices Commission relating to the sale of smokeless tobacco products in Australia. In allowing AFCO that right, the Federal Court reflected on the role of organisations such as AFCO:

"It is a function of AFCO and many other consumer organisations to make public the harm which may result to users and consumers of products the use or the consumption of which may cause harm. AFCO does not purport to have a specific role as a representative of consumers of smokeless tobacco. One of its roles is to expose the harm which it alleges the consumption of smokeless tobacco may cause to consumers thereof (United States Tobacco Company v Minister for Consumer Affairs 1988: 91 per Davies, Wilcox and Gummow JJ)."

**Conclusion**

The environment has been constituted as a modern legal subject of law partly through the prism of ‘risk’. As detailed above, risk is not a singular concept. It has a variety of forms and functions, from the actuarial predictions of an event occurring, the scientific calculation of the scale of probable harm, to the focus and label of a culturally constituted anxiety about environmental harm.
The law assimilates and understands the problem of the environment through the conflation of a number of different technologies and understandings of risk. It relies on expert scientific calculations of and is influenced by lay evidence of subjective experience and concern about risk. The law is concerned with assessing environmental risk as it applies to populations and specific places. The law must also assess the responsibility of individuals to avoid risk and prevent environmental harm. Risk calculation, vocabulary and techniques are utilised by the law in specialised ways to facilitate appropriate judgments regarding risk taking limits and responsibilities (Steele, 2004: 9).

It has been argued above that Beck’s sociological account of risk and the governmentality approach to risk facilitate a closer examination of how the law engages with and assimilates various discourses and practices of risk. Aspects of each, particularly the governmentality approach, are taken up in the thesis’s examination of the calculations and contingency which characterise environmental governance. Beck’s theorization of the risk society (1992b) is influential in the legal commentary on environmental law. His argument that the increasing prevalence and danger of environmental risk has produced a ‘critical reflexivity’ which characterises late modernity, is reflected in legal conceptions of individual responsibility in the face of environmental risk discussed in Chapters Seven and Eight, as well as the conditions which have led to the legal recognition the public interest in environmental governance examined in Chapter Six. In tandem, the governmentality approach to risk provides a useful strategy for the examination of legal understandings of environmental risk because of its emphasis on the examination of how heterogeneous understandings of risk are
employed in specific contexts. This approach will also be taken up in Chapters
Seven and Eight’s examination of the configuration of risk in toxic tort litigation,
as well as informing consideration in Chapter Six of the rhetorical process
through which the legal recognition of the ‘public interest’ in the environment
has been constructed.
Chapter Six

LEGALISING THE PUBLIC INTEREST IN THE ENVIRONMENT

Between Governmentality and Liberal Law

Environmental law is not simply an invention of the court, the legislature or the law reform commission. Law relating to the environment is constantly being shaped and transformed by actors and agencies outside of those sites we normally associate with the formation of law. At any one time scientists, factory managers, bureaucrats, unionists, environmentalists, lobby groups, consumers and the media are all likely to have a variety of interests in the objectives and form of legal governance of particular environments. Some of these interests are congruent some are in conflict (Rutherford, 1999a). Obviously, conditions to do with the state of the law or the background of any presiding legal body will mean that the law privileges some of those interests over others. However, other factors and conditions, which reside outside of legal discourse itself, will also contribute to any attempt at shaping legal governance of the environment. An analysis of law or any other site of government needs to be concerned with the means by which it interfaces with other forms of knowledge and techniques of governance, Dean observes:

Within in any given society, there is a large, but finite, number of intermeshing regimes or practices. … The existence of such regimes of
practices makes possible borrowings across these regimes themselves, and forms of cooperation, overlap, intersection, fragmentation and contestation between them. One regime may attempt to colonize and subjugate another (Dean, 1999: 21).

This chapter considers the legal recognition of environmental lobbyists, and their claim to represent the ‘public interest’ as stakeholders in the management of non-human environments. The public interest claims of environmental lobbyists have been played out through the law relating to ‘standing’ which determines whom is entitled to bring an action for judicial review of administrative decision making. The recognition by the common law of non-pecuniary public interests has been subject to ‘pragmatic and situated’ calculation and the authority of environmental lobbyists has depended upon their capacity to articulate and align themselves with certain scientific and epistemological constructions of the environment.

The various attempts to have public interest in environmental governance recognised by common law, as an issue that justifies judicial review, are part of a contest to identify what ‘ideals and principles’ should inform legal governance. In analyzing law as a technique of governance, this chapter recognises Weber’s insight that the ‘formal rationality of modern law’ and its ‘systematization’ are key to the manner in which law is employed as a technique of governance. The formality of legal calculation places limits on the parameters of legal discourse, whereby only certain types of knowledge, claims and practice are amenable to such calculation (Boucock, 2000: 90). This chapter examines what sort of knowledge claims and practices have been preferred by legal discourse and,
ultimately, ‘how’ the public interest in environmental governance has found a privileged place within that discourse in Australia.

In the first section, the notion of public interest is introduced as it currently operates in Australian legal governance. The second section, briefly considers the significance of the collective nature of the public interest in the environment because the common law has developed to protect the rights of autonomous individuals the identification and articulation of collective interest is not straightforward. This discussion is followed by a historical overview of the application of standing rules in cases involving matters of ‘public interest’. In the third section, an analysis is conducted regarding the pragmatic way the common law actually does calculate the public interest, setting out the idea that it calculates rhetorically not definitively. In the fourth section, the process by which interests are calculated is further explored as Hindess (1986) and Ewald’s (1986) contentions about the constitution of interests are considered in light of further case material. In the conclusion, the connection between this argument about the calculation of interests within the common law and the ‘governmentality’ approach to the study of governance is strengthened.

**Public Interest in the Environment**

Over the latter part of the twentieth century, the law has been increasingly employed as one of a range of formal governmental techniques, to manage, regulate and protect the environment. As Rutherford explains:
From the end of the 1960s, through the establishment of a wide range of environmental legislation and enforcement agencies, the advanced industrialized countries experienced a rapid growth in state intervention directed at environmental regulation and planning. Ecological and environmental research in the 1970s thus laid the foundation for public policies of significant economic and political impact … the period since the early 1970s has seen the significant institutionalisation of new forms of ecological governmentality (1999a: 55).

International law and protocols have become a necessary adjunct to diplomacy in managing environments at a transnational level as concern for the global environment has become a matter of international relations and trade (Birnie and Boyle, 1992). Since the late 1970s, public interest in the fate of the environment has been recognised in western states. At a judicial level in the United States, standing requirements have been liberalised in favour of third party advocate organisations and there has been a parallel recognition of the public interest in environmental governance by various United States legislatures (Stone, 1988: viii). The United States’ lead has been followed by other common law nations. Measures taken by the European Union (EU) are fairly typical of most industrialised nations. The EU has established an extensive regime of environmental directives, such as the Environmental Impact Assessment Directive (1997) which requires members of the EU to factor environmental considerations into economic activity. The EU Access to Information Directive (1997) means that public scrutiny of environmental governance is assured a

In Australia, in the last twenty years, public interest advocacy and campaigning around the proper management of the environment and associated public health issues have acquired a certain political legitimacy (Ramsay and Rowe, 1995: 102-118). Management of the environment has been a significant political issue in most election campaigns since the election of the Hawke Labor government in 1983, an election win achieved with significant input from the ‘green’ vote (Burgmann, 1993: 219). Environmental governance has spawned sizable bureaucracies and regulatory authorities in each state and at the federal level. Specialist planning and environment tribunals have been created, notably the New South Wales Land and Environment Court (Ramsay and Rowe, 1995: 810-823). Environmental lobby groups are recognised and partially funded by government (Ramsay and Rowe, 1995: 104). Largely as a result of agitation by lobby groups to allow formal participation by citizens in environmental governance, many environmental legislative regimes in Australia, like those in the United States and Europe, facilitate and require public input and comment. For example, see Schedule 3 of the Intergovernmental Agreement on the Environment May, 1992. However, the availability of these rights is not consistent across the federation of Australian jurisdictions (Bonyhady, 1993). For example, appeals against formal decisions impacting upon the environment are available under many state and federal legislative regimes, the most generous being that allowed in New South Wales by the Environmental Planning and Assessment Act 1979 (NSW) (s.123):
Any person may bring proceedings in this court for an order to remedy or restrain a breach of this Act whether or not any right of that person has been or may be infringed by as a consequence of this breach.

At the federal level, the World Heritage Properties Conservation Act 1983 (Cth) (s.14) and the Ozone Protection Act 1989 (Cth) (s.56) allow any person to initiate proceedings for an injunction to restrain a breach of their respective Acts. In Victoria, third party merits appeal against pollution control decisions is available under the Environment Protection Act 1979 (Vic) (s.33B), although it is unavailable, or available only with the consent of the relevant regulatory agency, in other states.

However haphazard the legal regulation of the environment may still be, it is nevertheless firmly on the Australian political agenda. Ramsay and Rowe introduce their text on Australian environmental law and policy with the following observation:

Environmental issues have come to dominate public and private life to a degree unimaginable even thirty years ago. While last century specific environmental problems achieved great importance and prompted political and legislative action in the form of public health, town planning and building laws, these were often seen as extremely radical challenges to existing rights and expectations, especially those of landowners. Now, however, towards the end of the twentieth century, scarcely a day passes
without at least some environmental or resource concern receiving media

The Australian common law has also problematized the environment. Twenty
years ago, an interest in environmental governance was unlikely to move a court
to allow standing to an applicant asserting that interest. In 1980, the High Court
of Australia, in refusing an application by the Australian Conservation
Foundation (ACF) seeking judicial review of a decision to license a tourist
development on the central Queensland coast, made the following observation:

I would not deny that a person might have a special interest in the
preservation of a particular environment. However, an interest, for
present purposes, does not mean a mere intellectual or emotional concern
… A belief however strongly felt, that the law generally, or a particular
law, should be observed, or that conduct of a particular kind should be
prevented, does not suffice to give its possessor locus standi (Australian

If framed appropriately, an application by an environmental organisation such as
the ACF would not be dismissed in such terms today. Through the process of
professionalisation and most importantly through the assertion of expertise
articulated in the risk oriented discourse of scientific ecology, environmental
lobbyists have found a respectable and almost apolitical voice that has allowed
The courts to interpret the standing rules in their favour\(^1\). The pragmatism of the common law has fostered this change. Nevertheless, the common law has been persuaded to recognise the non-corporeal and collective interest in the environment. The shift of the common law towards embracing such interests has been justified by a specific form of rhetorical calculation, which will be examined in detail below.

**Beyond Liberal Individualism**

Of foremost concern regarding the common law’s calculation of public interest is an argument that the very recognition of public interest - the possibility of even considering it - disrupts the entrenched and extreme view of the common law’s commitment to certain liberal principles. The appearance of public interest upon the mental map of the common law is arguably contingent upon political opportunity and technological capacity; it is committed to pragmatism more than to principles. Furthermore, in making its way onto this mental map, public interest is a creature of collective action and conscience, unlike legal rights, which are the core of the law’s obsession with individuals.

Although individual interests may be the primary focus of judicial proceedings, the wider governance, in which the common law is but one albeit very important player, employs rationalities that, while they may have an interest in the fate of individuals, feature assessments made at the level of populations and

In discussing the Weberian understanding of the modern legal order, Cary Boucock says that the “lengthening chain of social interaction”:

segments and differentiates the responsibility held by any particular individual for the outcome of any particular institutional and economic activity. Modern legal domination creates a ‘public sphere’ in which morality is replaced by legality; the moral proximity of the neighbourhood is replaced with the reason-mediated distance of the urban ‘strangehood.’ The ideal of modern legal order is to discourage human inclinations resistant to prediction and rational justification and to facilitate impersonal, purposeful, reciprocal and contractual associations. Modern social relations are rendered paradigmatically calculable, rule-guided, and universalizable via the systematic detachment of individuals from one another and the floatation of their moral responsibilities to their communities. … [P]aradoxically, the lengthening chain of interdependence instituted by formalization increases enormously our dependence on the conduct of a multitude of people we will never meet (2000: 110).

In a civic sense, we have become dependent on professional ‘interest’ groups, such as the ACF, the Wilderness Society and the Australian Association of Consumer Organisations, as our agents whom meet on our behalf the responsibilities that attend citizenship. No matter how strong our personal feelings may be on a matter of public interest, the limited time available for political action, after being a worker, parent, student, friend, carer or watching
television, and our limited capacity to act effectively as individuals means that, for most of us, financial membership of an advocacy organisation or signing a petition is the closest we will get to action on the issue we purport to care about.

Indeed, some theorists argue that in any event an individual’s particular interest will only be recognised by the broader social body and have ‘social legitimacy’ if it is defined in terms of a ‘representative’ collective interest. In theorising about governance, Ewald goes so far as to argue that the state is organised and governed around the formulation of a shifting and open range of ‘collective interests’ that it attempts to balance, absorb and appropriate individual interests (1986: 50-52). According to Ewald, collective interests are not the mere sum of individual interests. This process of identifying with a collective interest, demands that the peculiar characteristics of individual interests be subordinated and refashioned in terms that are consistent with the socially accepted understanding of the collective interest (1986: 51).

Ewald’s (1986) account of the role of interests poses another significant dilemma for the common law, the formal role of which is to mediate between competing interests, endorsing and protecting some and not others. If the general interest of the social body is found in the effective balancing of competing collective interests, then laws and legal institutions must be judged on their capacity to successfully arbitrate. Ewald identifies some of the particular difficulties presented for law by this modern requirement to balance and arbitrate between competing and collective interests. Among these are the problem of the legal personality of groups; the problem of their capacity to act legally; the problem of
defining the interests they are fitted to defend; the problem of their ‘representivity’; the problem of their capacity to express the group’s interests; and the problem of their normative power over members and over those they are held to represent (Ewald, 1986: 54).

The development of the laws of standing, as will be shown, point to the fact that the right of an organisation to act as an advocate of ‘the public interest’ has turned upon more than a large, broad-based membership. The right to bring legal proceedings on a matter of public interest has become the province of professional non-government organisations that are able to demonstrate considerable expertise and, preferably, an existing political relationship with government. Concurrently, as organisations such as the ACF were constructing themselves as the obvious advocates of the public interest in the environment, the courts were forced to rethink how the public interest could legitimately be the subject of legal proceedings. From the courts’ perspective, the public interest was a ‘nebulous’ concept that lacked any of the comfortable concrete qualities of an individual litigant insisting on the protection of readily identifiable legal rights. The rules, which had determined when a matter of public interest could be the subject of judicial review and who had the right or duty to initiate such proceedings, had come to be recognised as inadequate precisely because public interest litigation did not fit readily into accepted common law ways of thinking (Australian Law Reform Commission, 1985). Between the late 1970s and 1989, the common law effectively reconfigured ‘the public interest’ as a new type of interest. The common law adapted to the situation and forged its own way of calculating these ‘new’ interests. The following section will explore how this
occurred by outlining the historical application of standing rules in cases involving matters of ‘public interest’ in Australian jurisdictions.

**Standing of Third Parties Acting in the Public Interest**

Prior to 1980, the common law rule in *Boyce v Paddington Borough Council* (1903) had been entrenched as precedent in all Australian and English cases in which private persons sought injunctive or declaratory relief concerning activities undertaken for the public benefit. This rule meant that people and organisations, other than the Attorney General, were only allowed standing if they were able to show that in addition to there being a breach of a public right, the breach had also either led to an interference with their private rights or had caused the potential plaintiff to suffer ‘special damage’ over and above that suffered by the public in general. This rule had prevailed, despite the repeated reluctance of Australian Attorneys-General to grant their fiat to private citizens in cases involving matters of public interest or benefit (Australian Law Reform Commission, 1985: 54-61). In its highly critical report on the law of Standing, the Australian Law Reform Commission observed:

> The record of the Attorney General in granting fiats is not a particularly generous one, the rights of control which he possesses are extensive and denial of a fiat by him is not open to challenge in the courts (1985: 61).

The protection of the public interest has been both limited by the political constraints on the Attorney General’s capacity to grant his/her fiat and by the common law’s long preoccupation with the protection of proprietorial and
pecuniary interests. Indeed, prior to *Cooney v Ku-ring-gai Municipal Council* (1963) it was considered that even the Attorney General only had the power to seek injunctive relief to prevent the abuse of a statutory obligation in cases where the public interest, which the Attorney General sought to protect, was proprietorial or had characteristics of a proprietary nature (Australian Law Reform Commission, 1985: 58). It was on these legal obstacles that the ACF had foundered in 1980. However, by 1989 the court had inched towards an appreciation of the public interest, which allowed it to step out of the confines of the rule in *Boyce*.

The major factor that initially restricted the development of any form of judicial review, in the name of the public interest, was the common law’s preoccupation with pecuniary and proprietary interests of individuals (Allars 1991; Australian Law Reform Commission, 1985). In the first Australian Conservation Case *Australian Conservation Foundation Inc v Commonwealth* (1980), the ACF had tried to persuade the High Court that the notion of special damage should extend beyond the pecuniary and proprietary interests recognised by the rule in *Boyce*. The High Court was prepared to rethink the notion of ‘special damage’ as being “equivalent to having a special interest in the subject matter of the action” (*Australian Conservation Foundation Inc v Commonwealth* 1980: 527 per Gibbs J). However, according to Justice Gibbs, an “intellectual or emotional concern” did not qualify as such because it was not the type of interest that set the members of the ACF apart from other members of the public, thus making it impossible for them to possess ‘special interest’ (*Australian Conservation Foundation Inc v Commonwealth*, 1980: 530).
A real shift in this principle of special damage did not really occur until the case of *Onus v Alcoa of Australia Ltd* (1981). In this case, the High Court found that the Gournditch-jmara Aboriginal people of southwest Victoria would suffer special damage if they were denied access to ancient Aboriginal relics central to their spiritual beliefs and practices. The High Court did not hold that all Aboriginal people would suffer this damage, only the Gournditch-jmara custodians of the laws and custom associated with the relics. In Victoria, the requirement to preserve such relics was recognised by the *Archaeological and Aboriginal Relics Preservation Act 1972* (Vic). Perhaps the centrality of the physical relics made it somehow easier for the High Court to recognise a non-material spiritual interest as a special interest.

The next shift in the judiciaries’ understanding of an ‘interest’ justifying standing was in the case of *Ogle v Strickland* (1987), an action under the federal *Administrative Decisions (Judicial Review) Act 1977* (Cth) (ADJR Act). The ADJR Act was part of the federal administrative law reform package introduced in the late 1970s. From the introduction of the ADJR Act, the Federal Court had taken a fairly liberal approach to the interpretation of key provisions, wanting to make judicial review more readily available than it had been under the relatively archaic common law rules (Allars, 1991). The applicants in the *Ogle* case, an Anglican Minister and a Roman Catholic Priest, needed to establish that they were ‘persons aggrieved’ by the Censorship Board decision to allow the film *Hail Mary* to be imported into Australia. Being a ‘person aggrieved’ can reasonably be equated with the common law notion of ‘special damage’ (Allars,
The applicant ministers claimed that the film was blasphemous and offended the fundamental tenets of Christianity. They argued that it was “their vocation to teach and foster Christian beliefs and that it is part of their duties to reject or repel blasphemy which attacks the very foundation of their faith” (Ogle v Strickland, 1987: 309 per Lockhart J). The Federal Court was prepared to allow the ministers of religion standing, reasoning that by virtue of their vocation they were specially affected by the decision in a manner that ordinary members of the public, including practicing Christians, could not claim to be. The Federal Court acknowledged that the decision in Onus “was consistent with attitudes expressed in other common law countries” (Ogle v Strickland, 1987: 321 per Wilcox J). The Federal Court also reasoned that to deny the applicant ministers of religion standing would be to deny “an important class in the community an effective means and procedure for challenging decisions of the kind involved in this case” (Ogle v Strickland, 1987: 318 per Wilcox J). The same logic might have been applied by the High Court in the first Australian Conservation Foundation case; however, the Federal Court made an important distinction between the role of those chosen by vocation or custodianship of recognised sacred beliefs over those who share “mere intellectual and emotional beliefs” (Ogle v Strickland, 1987: 313 per Lockhart J). Justice Wilcox, a one-time counsel for the ACF, argued that the rules of standing need not be bound by some connection between the subject matter of the case and the putative applicant having some form of proprietorial or pecuniary interest. He remarked:

The recent Australian experience is that, in cases where idealogues have been able to gain access to the court, cases have been hard fought and
professionally conducted … there was no want of “concrete adverseness” 


In 1988, this shift in judicial understanding regarding the notion of what constituted an ‘interest’ in a matter was acknowledged in another Federal Court case under the federal Trade Practices Act 1974 (Cth). This case allowed the Australian Federation of Consumer Organisations (AFCO) to appear as *amicus-curiae* in a matter involving the possible introduction into the Australian market place of smokeless tobacco products. The Federal Court observed:

The term ‘interest’ has long been an expression used in the law with respect to parties so as to require an involvement with a case greater than the concern of a person who is a mere intermeddler or busy body … The necessary interest need not be legal, proprietary, financial or other tangible interest. Neither need it be peculiar to a particular person (*Re: United States Tobacco Company and Australian Federation of Consumer Organisations Inc.*, 1988: 86 per Davies, Wilcox and Gummow JJ).

Within two years, the Federal Court, through the second case involving the ACF, *Australian Conservation Foundation v Minister for Resources* (1989), another ADJR Act action, had moved on from the position in *Ogle v Strickland* to find that the ACF should be granted standing, in a secular sense, because the public relied on such organisations to act in its interest and challenge decisions involving the environment. In this second case, the ACF wanted to appeal a decision to allow the logging of old-growth forests in southeastern Australia. The
forests were included on the register of the National Estate and the ACF had been centrally involved in action taken over a period of time to preserve the forests. The ACF had conducted scientific investigations itself into the impact of logging on native flora and fauna, and had campaigned and lobbied to protect the forests. By this time the ACF was a very large organisation, funded in part and routinely consulted by government. The Federal Court found that the ACF was an applicant that had the necessary capacity to represent the public interest in the case. As a matter of tactics, the ACF had made its application with a sympathetic co-applicant named Harewood, who owned land abutting the forest. Harewood claimed that the proposed logging would diminish the enjoyment of his land and cause damage to it. He was not only disturbed by the movement of logging trucks and “the noise of chip boats loading at night”, he also avowed an environmental interest. Davies J. noted that Harewood claimed that “when he visits the logged areas, he is upset by the loss of trees which are obviously several hundred years old and by the destruction of plants and animal habitat” (Australian Conservation Foundation v Minister for Resources, 1989: 75). The Federal Court did not grant Harwood standing, despite his arguable proprietorial interest in the matter. Justice Davies reasoned that Harewood did not have “a special interest” as his property was outside the National Estate which was the subject of the proceedings. His Honour found further that, “as to the effect of logging on the National Estate, Harewood’s interest is not a special interest but is that of an ordinary member of the community” (Australian Conservation Foundation v Minister for Resources, 1989: 75). Without any special scientific expertise or a capacity to represent the wider public interest, Harwood was not the appropriate applicant to represent the public interest in the environment.
The legal, social and political context had changed, and the same organisation that the High Court held to only have “a mere intellectual and emotional concern” in the environment nine years earlier was by 1989 the expected and appropriate applicant in a matter of environmental litigation. The second ACF case also fulsomely recognised judicially that there existed a strong public interest in the environment. This decision was affirmed in subsequent cases (notably North Coast Environment Council Inc v Minister for Resources, 1994), and fundamentally shifted Australian legal conceptions of the role of professionally organised, resourced and specialist advocate organisations in the legal governance of the environment.

It has been organisations-as-advocates of said ‘public interest’ in environmental governance and public health that have been prominent in both agitating for and taking advantage of this relatively new judicial openness concerning the parties entitled to participate in litigation. The success of these environmental non-government organisations, as opposed to individual citizens qua individuals, has been due both to the nature of their claims, their expertise and their ability to organise and lobby. They have become identified with, to the extent of articulating, ‘the public interest’ in environmental governance. Expertise, lobbying and investigation regarding the environment and public health are now required if a nexus between an environmental advocate and the legal proceedings challenging some aspect of environmental governance is to be established. To gauge how much the significance of the expertise of environmental non-government organisations has changed over the last twenty years, or at least the
perception of its significance, consider the fact that peak environmental organisations, such as the ACF and AFCO, are now formally recognised by governments, as well as partly funded by them. As suggested, this formal recognition of the special expertise and role of such non-government organisations has been one of the significant factors that has persuaded the courts to calculate the public interest differently, at least as it relates to the environment, and to thereby expand the category of applicants likely to be granted standing in litigation dealing with the environment. In being pragmatic the common law has allowed and even fostered such change.

**Public Interest the Pragmatic Aid of Legal Governance**

The notion of public interest, like the notion of public policy, is a pragmatic aid that serves to reconcile the law with emerging dilemmas of social governance. It is employed by advocates and litigants to make claims that formally received law has not yet sanctioned or addressed. Legal recognition of the commensurability of certain ideas or activity, as ‘in the public interest’ or ‘good public policy’, marks the dynamic interface of the common law with the non-legal concerns of social policy and practice.

For the purposes of formal common law discourse, interests either are apparent or they are not. The legal actor is primarily concerned with mounting a persuasive argument that an interest is legally legitimate. In order to maintain their authority, courts are concerned to show that they are not simply pursuing their own preference in moving beyond conventional legal doctrine to embrace a public interest claim (*Oshlack v Richmond River Council*, 1998: 99 per McHugh.
J). If a claim to be representing the public interest is to be legitimately entertained, the conventions of the common law require courts to locate the asserted public interest alongside accepted legal principles. Arguably, this is a rhetorical process. The following discussion of this idea borrows heavily from American scholar Francis Jay Mootz’s development of the concept and its application to socio-legal objects (Mootz, 1998; Wickham, 2000). Mootz argues that:

ancient rhetoricians well understood that the cultural ‘common sense’ serving as a background for all understanding is nourished not on methodologically-secured truths, but rather on the ‘probable’ as articulated in contingent and historically defined knowledge (Mootz, 1998: 505).

Mootz’s (1998) account of rhetoric in turn marries the thinking on rhetoric of the hermeneutist Georg Gadamer and the pragmatic philosopher Chaim Perelman. “Gadamer believes law holds authority because it is the practice of hermeneutically appropriating governing texts to current disputes” (Wickham, 2000: 938). In doing so, the law and the methods that it adopts to resolve disputes is a site of our ‘intersubjective belonging’ (Mootz, 1998: 500). Gadamer allows rhetoric more significance than science, “as a universal form of human communication” (Mootz, 1998: 505). Mootz argues that despite the appeal of Gadamer’s thinking on the use and significance of rhetoric, it is nevertheless a little vague when explaining “the activities by which people pursue justice and morality in the course of daily life” (as cited in Wickham, 2000: 939). At this
point, Mootz turns to the thinking of Perelman, who distinguishes “rational truths from reasonable arguments” (Wickham, 2000: 939). The legal system adopts a reasoned process for the purpose of resolving dispute, which allows it authority despite the “inevitable lack of indubitable knowledge about the questions raised by the case at hand” (Mootz cited in Wickham, 2000: 939). According to Mootz, this allows the legal system to produce rhetorical knowledge, a product of our intersubjective experience and history, which motivates action by means of its authority (Wickham, 2000: 940). In discussing rhetoric, Mootz says of rhetoric,

stress is on the development and management of a particular intersubjective realm, a community, understood not as an organic *Gemeinschaft* but more as a construction, an invention, as Foucaultians are wont to call it (Wickham, 2000: 941).

Within this legal discourse, the notion of public interest allows courts to depart from the ambit of a general rule only if the matter claimed to be of public interest can be determined, by the court concerned, to be of general and widespread concern. However, in its abstract form the notion of public interest is rarely justified or assessed. The report by the Australian Law Reform Commission (1985) on standing in public interest litigation constitutes a rare example of a legal institution self-consciously reflecting upon the nature of ‘the public interest’. Even this report only gives scant attention to the notion, and is primarily concerned with examining the restrictive nature of the rules determining standing to initiate judicial review in Australian jurisdictions. Yet the absence of reflection on the abstract idea of the public interest is not
inconsistent with the central argument in this chapter, that the common law performs its calculations subtly, in line with its rhetorical commitment to particular cases.

The notion of public interest, as such, is recognised by legal commentators and jurists when there is dispute over the conditions under which it is invoked. In the conservation case of *Oshlack v Richmond River Council* (1998), the High Court of Australia, in a slightly unusual appeal decision from the NSW Land and Environment Court (unusual in that it was brought by the winning respondent, the Richmond River Council, who appealed against the decision not to award it costs), was required to consider what the term ‘public interest’ meant. Oshlack, a member of the environmental group Lismore Greens, was the unsuccessful party. In 1984, he initiated litigation in the New South Wales Land and Environment Court challenging a decision by the Richmond River Council to allow residential subdivision of a block of land at Evans Head. He argued that this would have a detrimental impact on native fauna, especially koalas. In the original hearing, in the Land and Environment Court, Justice Stein opened his judgement as follows:

The notion of public interest litigation has been gaining ground in Australia over the last decade. The concept derives from principles of public law rather than private. The development springs from the increasing access of individual members of the public and groups to approach the courts and seek to enforce aspects of public law. This is particularly so in the area of environmental law where many New South Wales statutes include open standing provisions enabling “any person” to
seek to enforce breaches of the law \textit{(Oshlack v Richmond River Council, 1994: 238)}. 

Justice Stein went to some lengths to argue that adverse costs orders could well deter public interest litigation. Quoting an extra-judicial comment of former High Court Justice Toohey, he further stated:

\begin{quote}
The fear, if unsuccessful, of having to pay the costs of the other side (often a government instrumentality or wealthy corporation), with devastating consequences to the individual or environmental group bringing the action, must inhibit the taking of cases to court \textit{(Oshlack v Richmond River Council, 1994: 238)}.
\end{quote}

He developed this line of argument by making the point that there was Australian precedent, supported by the opinion of reformers overseas, including the United Kingdom Law Reform Commission, to allow him to relieve an unsuccessful party of the burden of costs if it could be established that there were exceptional circumstances justifying such a departure from the ordinary rule \textit{(Oshlack v Richmond River Council, 1994: 241)}. In his opinion, such exceptional circumstance clearly existed in this case:

\begin{quote}
The basis of the challenge was arguable, raising serious and significant issues resulting in the important interpretation of new provisions relating to the protection of endangered fauna. The application concerned a publicly notorious site amidst continuing controversy. Mr Oshlack had
nothing to gain from the litigation other than the worthy motive of seeking to uphold environmental law and the preservation of endangered fauna. Important issues relevant to the ambit and future administration of the subject development consent were determined … These issues have implications for the Council, the developer and the public (Oshlack v Richmond River Council, 1994: 242).

On appeal (Oshlack v Richmond River Council, 1998), the High Court was required to determine whether indeed public interest litigation involved such exceptional circumstances as to justify departing from the ordinary rule relating to costs. In other words, the High Court had to decide whether Oshlack was a public interest case. In doing so, the High Court encountered some difficulty in establishing an abstract definition of ‘public interest’, deciding on the basis of this difficulty that the notion was ‘nebulous’ (Oshlack v Richmond River Council, 1998: 84 per Gaudron and Gummow JJ), ‘protean’ and of ‘inherent imprecision’ (Oshlack v Richmond River Council, 1998: 100 per McHugh J). All members of the High Court, except Justice Kirby, were seemingly concerned to find a formal definition of ‘public interest’. Justice Kirby, for his part, agreed that ‘public interest’ was “difficult to define with precision” (Oshlack v Richmond River Council, 1998: 124), but was satisfied that legal precedent existed allowing the public interest in environmental governance to be a basis for departing from the established principle regarding the awarding costs. Justice Kirby was satisfied that the primary judge, Justice Stein, had correctly characterised the litigation as being in the public interest (Oshlack v Richmond River Council, 1998: 124).
On the other hand, Justice McHugh argued that if a claim to be acting in the public interest was the justification for departing from an accepted legal practice, it was necessary to produce a precise definition of it (*Oshlack v Richmond River Council*, 1998: 99). He could not find such a definition, but continued to assert its necessity. Keen to achieve ‘objectivity’, he cited as authority Professor Paul Gerwitz:

Judicial power involves coercion over people, and that coercion must be justified and have a legitimate basis. The central justification for that coercion is that it is compelled, or at least constrained, by pre-existing legal texts and legal rules, and by legal reasoning set forth in written opinion. From this perspective, the exercise of judicial power is not legitimate if it is based on a judge’s personal preferences rather than law that precedes the case, on subjective rather than objective analysis, on emotion rather than reasoned reflection (*Oshlack v Richmond River Council*, 1998: 99).

On the strength of this type of thinking, Justice McHugh voted to dismiss the appeal, calculating that the case was not in the public interest, and that there was no basis for disturbing the established rule of law. He was concerned that the legal reasoning that Justice Stein had applied had the potential to lead to an award of costs being based on “nothing more than the social preferences of the judge” (*Oshlack v Richmond River Council*, 1998: 100), which was a fate he wished to avoid. Justice McHugh considered the general rule regarding costs to

However, it turned out that only Justice McHugh and Chief Justice Brennan thought the definitional difficulty a determining obstacle. By a majority, the High Court accepted that the public interest in the matters being litigated was apparent. Clearly, the notion of public interest was calculated here by means other than formal abstract definition.

**Calculating Public Interest Rhetorically Not Definitively**

The notion of public interest in fact allows the common law a means of avoiding unpalatable or inconvenient precedents and it is via this avenue that it built its means of calculating this form of interest. In other words, calculating public interest has become a legitimate basis for disturbing the dominant ethos or rule of law in common law jurisdictions, a step Justice McHugh was reluctant to take in the above discussed *Oshlack* case. However, his reticence is in contrast to a judge of a different bent. Justice Wilcox argued that:

Much of the progress of mankind has been achieved by people who have sacrificed their own material interests in order to champion ideals against fierce resistance. The recent Australian experience is that, in cases where ideologues have been able to gain access to the court, cases have been hard fought and professionally conducted. I illustrate this point by referring to ten reported cases, involving diverse issues arising in
different parts of Australia and a variety of plaintiff groups … there was no want of ‘concrete adverseness’ (*Ogle v Strickland*, 1987: 323-324).

Yet, extra-judicially Justice Wilcox has acknowledged that recourse to the notion of ‘public interest’ is a means of justifying judicial activism in a legal culture that has established its legitimacy on the basis of the doctrine of the separation of powers and adversarial contest (Wilcox, 1992: 217-218). The real difference between the approaches of the two judges to the appropriateness of acting in the public interest is that Justice Wilcox, unlike Justice McHugh, has a taste for judicial activism.

The socio-legal scholar, Doreen McBarnet, would not be surprised that judges are concerned to persuade that recourse to a concept, such as the public interest, is or is not acceptable. McBarnet (1981) develops the idea that notions such as public interest are importantly rhetorical, essential to the survival of the common law as a legitimate technique of governance. Mootz (1999), explaining such use of rhetoric, says, “it is not a technical skill employed in the pursuit of independently selected ends but rather is a means of discerning and evaluating the ends available to a given community [such as the community of Australian courts] with certain means at its disposal” (as cited in Wickham, 2000: 940, n. 124). The rhetorical appeal to a notion such as the ‘public interest’, allow the law, McBarnet would say, to appear as though it is simply shifting gear, rather than moving too radically off course (1981: 161).
While common law discourse makes recurrent reference to ‘the public interest’ there is, in line with McBarnet's point, little overt reflection about what this public interest might actually be. An abstract notion of the public interest is largely useless to common law practice and manoeuvrings, as Justice Kirby argued in *Oshlack* and, it has to be said, as the majority decided in that case. Despite its best efforts to find an objective definition, and despite the determination of two of its members to do so, the High Court in *Oshlack* found attempts at defining the public interest, presented by the appellant, ultimately unhelpful:

[T]he submissions for the appellant, in part, sought to establish a category of ‘public interest litigation’ into which this case fell. That is a ‘nebulous concept’ unless given, as the primary judge did in the present case, further content of a legally normative nature. It also tends, in this litigation to distract attention from the legal issues at stake (*Oshlack v Richmond River Council*, 1998: 84 per Gaudron and Gummow JJ).

The notion of the public interest, this is to say, is simultaneously useful to lawyers, mainly because it affords rhetorical opportunities to persuade a court to move on an established legal position, and to the courts, precisely because it allows them to be so persuaded. Occasionally, attempts are made to reflect upon the notion, as in the *Oshlack* case, but such attempts generally stop short of examining what is actually involved in the legal argument that an applicant is acting ‘in the public interest’. The pragmatic and rhetorical operation of the common law, focusing as it does on the disposition of specific cases, seems to
ensure that only so much analysis of the public interest occurs and no more. As Mootz observes, in his argument that the law functions in a rhetorical mode:

Lawyers know very well that argumentation is a bounded and rational enterprise that nevertheless cannot aspire to a process of deduction from principles, even though the rhetorical conventions of legal practice and judicial opinion-writing ironically work to conceal this (supposedly dangerous) fact (Mootz, 1999: 327 as cited in Wickham, 2000: 940, n.124).

Even in more reflective moments, away from the demands of litigation, common law discourse returns to explanation by example. For example, when the Public Interest Advocacy Centre (PIAC) held a summit in June 1993 entitled, “Redefining the Public Interest”, Simon Rice, Director of the Kingsford Legal Centre, observed:

The ‘redefinition’ which was the aim of the conference was never explicitly addressed; no session of the day was set aside for that issue. Rather, the day’s agenda itself reflected the range of interests and perspectives that could contribute to a definition of the public interest. During the day an idea developed of the many aspects of “the public interest”, and of the competition among interests any of which could claim to be part of the public interest (1993: 192).
Reflection upon the public interest beyond practical instances of its use is clearly not necessary for the operation of the common law. In other words, this is not a conjuring trick. It is not being suggested here that the common law is fooling us, conjuring the notion of public interest out of its hat when it thinks we want to see it. Rather, it is argued that the common law is operating in a more sophisticated way than the traditional liberal picture of it allows. Instead of reducing the public interest to the interests of individuals, in line with some supposed commitment to classical liberal modes of calculation, the common law is calculating this notion pragmatically or rhetorically. That is to say it relies on the submission of reasoned argument that the public interest advocate has specialist knowledge that necessitates its involvement in the proceedings if the case is to be resolved. In so doing, we are given a glimpse of the common law’s capacity to participate, as a central player, in the complexities of modern government.

**Social Theory and the Calculation of Interests**

A survey of attempts by a few social theorists (Ewald, 1986; Hindess, 1986; Miller and Rose, 1990) to identify the key features of interests paints a picture of interests as contingent, and dependent upon social and political conditions. Interests are inherently collective in character and produced through the assimilation and convergence of a multiplicity of factors, including the expression of coexistent and conflicting individual interests. The extent to which interests appear and are sustained in the public mind is determined, at least in part, by technological capacity, including the technology of the common law.
The appearance of the environment as a subject of public interest has been and remains contingent upon technical and scientific capacity, as well as social and political conditions. As previously indicated, Rutherford (1999a) argues that the environment became a governmental problem via scientific representations of it. Environmental modeling, of the kind developed by scientific ecology and adopted by the discipline of environmental science, has allowed certain understandings of the environment to be translated by a variety of agents responsible for environmental governance (1999a: 37). The environment cannot simply be managed through top-down regulation. Rather, it is an object of governance at a distance, an object that is only understood through the mediation of a variety of agents competent in ‘translating’ that expert knowledge. Miller and Rose observe:

[K]nowing an object in such a way that it can be governed is more than a purely speculative activity: it requires the intervention of procedures of notation, ways of collecting and presenting statistics, the transportation of these to centres where calculations and judgements can be made and so forth. It is through such procedures of inscription that the diverse domains of ‘governmentality’ are made up, that ‘objects’ such as the economy, the enterprise, the social field and the family are rendered in a particular conceptual form and made amenable to intervention and regulation (1990: 5).

The well being of the environment and control of environmental damage is audited rather than proscribed. Its health is managed by the application of a body
of scientific technologies that produce “authoritative accounts of the sorts of
entities and processes which must be managed – ecosystems, global climatic and
atmospheric processes, habitat and species diversity, population and carrying
capacity, and so forth” (Rutherford, 2000). Expertise in technologies that provide
‘objective’ data about the potential level of environmental harm has allowed
environmental non-government organisations to claim the status of
environmental auditors (Gunningham, 1994). The successful assertion of their
expertise has allowed them to play a pivotal role in environmental governance.
Authoritative accounts of the environment, of the type employed by
environmental non-government organisations, have decentred and complexified
environmental governance (Bonyhady, 1993; Gunningham, 1994):

The rapid expansion of social regulation associated with the growth of
discourse on ecological problems in the 1970s produced a whole new
domain for the biopolitical administration of life. The population became
the target for a new form of ecological security and welfare, in which
environmental agencies and the professional disciplines required by them
set about the task of protecting the public against hazardous and
environmentally damaging technologies, demanding ‘ever more complex
and predictive analyses of the risks and benefits of regulation’. …
Regulatory ecological science does not so much describe the environment
as both actively constitute it as an object of knowledge and, through
various modes of positive intervention, manage and police it (Rutherford,
2000: 56).
As Hindess states, “[i]nterests are the product of assessment. They do not appear arbitrarily, out of nowhere, they are not structurally determined and they cannot be regarded as fixed or given properties of actors” (1986: 25). He also suggests that interests must be relatively stable in order to motivate or explain the consistent pursuit of certain goals or activities (1986: 15). The recognition of interests is always the subject of social and political contest and therefore contingent upon a range of factors that go beyond the motivation or claims of the individuals or institutions asserting interests (1986: 17). In other words, what is good for people or things, or ‘in their interest’ is not predetermined, it is produced and is likely to be a matter of contest. In the governmental quest to achieve health and well-being for populations, any interest can be overtaken by any other interest at any time, often by an interest previously obscured or ignored (Miller and Rose, 1990: 3). Hindess observes that, “different features of the conditions in which actors find themselves may be used to specify different, and sometimes conflicting, sets of interests” (1986: 16).

The Australian Law Reform Commission, in its Standing in Public Interest Litigation report, seemed to recognise that the public interest is contested in this way. The Australian Law Reform Commission argued that any single individual or institution could only ever seek to represent a particular aspect of the public interest (1985: 88). Indeed, this argument is central to their report:

The general aim of reform of the law of standing in the area of public interest litigation must therefore be to ensure that access to the courts is available to a sufficient range of plaintiffs, whether they be government
bodies or private persons or institutions, to ensure that the public interest is properly protected in the courts (1985: 85).

The courts, for their part, are not prepared to accept that any and every assertion of interest in a matter is of equal significance. Australian courts privilege some types of interests over others. In other words, they too operate in line with the aspects of social theory discussed above. A comparison of the current standing rights of environmental activists compared to those of morals campaigners, such as the Right to Life Association, illustrates this point. Currently, Australian courts in most jurisdictions are relatively comfortable with the idea that there is a genuine public interest in the protection of the environment. By contrast, the assertion of moral concerns is not considered the proper basis for initiating litigation (Right to Life Association (NSW) Inc v Department of Human Services and Health, 1995). Unless those moral concerns can be read as an ‘interest’ held and protected by a person designated by their religious office (Ogle v Strickland [1987]) or by Aboriginal spiritual custodianship (Onus v Alcoa of Australia Ltd. [1981]) it seems they will not be legally recognised.

The Right to Life Association and environmental advocates are operating in different discourses. While the Right to Life Association operates almost exclusively in a moral discourse purporting the sanctity of human life, environmentalists have moved away from a focus on the ethical and moral origins of environmentalism (Carson, 1962; Dobson, 1995; Hargrove, 1989; Stone, 1988) and towards functioning within the scientific, bureaucratic and legal discourses that dominate environmental governance (Rutherford, 1999a: 37, 50-
Ecological science has provided the means and techniques of calculation which has enabled environmentalists to scientifically predict the environmental ‘risk’ and identify precisely how and where the environment is vulnerable. It is therefore possible for the environmental advocate to frame arguments that are founded upon ‘objective’ scientific principles, which courts and policy makers are open to hearing and considering. Environmental advocates are currently favoured by the courts and are allowed standing because they have fashioned themselves as experts on the environment, as the rightful auditors of environmental governance. By contrast, moral campaigners, such as the Right to Life Association, are unlikely to gain standing, not because of the merits or otherwise of their legal claims, but because they present those claims in a framework that would require the courts, if they were to entertain or act upon them, to refashion themselves and their role within the conventions of the Australian system of government. As Hindess contemplates:

[W]hat is available to an actor at any given time is not a matter of choice. The differential availability of discourses providing means of assessment gives one set of connections between actors’ social location and the interests they are able to formulate ... The formulation of interests involve actors in the assessment of conditions and in locating themselves and others in relation to those conditions and possible changes in them (1986: 126).

However, the principled position asserted by the High Court in 1980, whereby an individual citizen or organisation has no right to insist on the proper
implementation of the law or the legal recognition of a strongly held belief, featured in the reasoning of the Federal Court in its decision in 1995 not to grant standing to the Right to Life Association who wanted to challenge the approval of clinical trials of the post conception abortion drug RU486 (*Right to Life Association (NSW) Inc v Department of Human Services and Health*, 1995). In that case, the Right to Life Association failed to establish standing to challenge the clinical trials for a number of reasons. The Federal Court determined that the manner in which the trials were to be conducted, rather than whether they should be conducted at all, was the only basis upon which the Right to Life Association could challenge the Secretary's approval for those trials to take place (*Right to Life Association (NSW) Inc v Department of Human Services and Health*, 1995: 68 per Lockhart J.; 82 per Beaumont J.).

The finding by the Federal Court must have seemed predictable to any lawyer with expertise in the field of administrative law, and therefore presumably to those advising the Right to Life Association. The Right to Life Association did not attempt to evidence any type of expertise in the conduct of the clinical trials. It did not frame its objections to the trials in terms of their scientific viability or attempt to argue that the trials were ethically, as opposed to morally, inappropriate. Despite the fact that the courts are prepared to review the process of ethical oversight, because ethical considerations have become institutionalised as an adjunct to professional practice and scientific research (Rutherford, 1999a). The Right to Life Association chose to argue instead that the trials were not in the public interest because they involved the possible commission of unlawful abortions, even though no evidence was provided that any such abortions had
taken place. The Right to Life Association claimed its moral concern over abortion meant that it was a ‘person aggrieved’, pursuant to the ADJR Act s.3(4), and therefore entitled to seek judicial review. The Federal Court did not consider that such a moral concern founded standing to seek judicial review. An opinion on a moral issue is generally considered by the courts to be subjective, and therefore not an appropriate object of judicial scrutiny unless recognised by the legislation that is the subject of the review.

The Right to Life Association also failed because its claim was too circumscribed. Even though an application for judicial review can only be initiated in relation to a discrete and identifiable administrative decision, such as a license to log a particular area of forest, collective interest around a single issue will not support a claim to initiate judicial review if the single issue is circumscribed by a dogmatic moral position or if the issue stands alone outside some broader agenda for social benefit. The second case involving the ACF concerned a single issue, the licensing of logging operations in the Coolangubra and Tantawangalo State Forests. However, Justice Davies was able to locate the ACF’s interest in the licensing issue within a broader environmental governance agenda:

It is thus worth noting the controversy underlying the present dispute, logging, including logging for the purpose of the export of woodchips, which is occurring in the forests of the South East Australia, is one of the major environmental issues of the present time. … The evidence before the court shows that the ACF is the major national conservation
organisation in Australia and was established with a view, inter alia, of reconciling the use and exploitation of resources with the conservation of the natural environment (Australian Conservation Foundation v Minister for Resources, 1989: 72).

In the Right to Life Association (1995) case the Federal Court protected itself from becoming a forum for social and moral debate. The Court took an entirely legalistic approach to the claim being argued by the Right to Life Association, which meant that it was never required to take a position on their anti-abortion platform. The Court made it clear that it considered any such moral arguments were more appropriately advocated in another forum. While accepting that the implied right to freedom of speech protected the right of the Association to object to the trials of the ‘abortion’ drug, the Justice Lockhart reasoned:

But it does not follow that the right to speak and to influence opinions of the public and of politicians may be transmuted into a right of standing to pursue proceedings in courts of law (Right to Life Association (NSW) Inc v Department of Human Services and Health, 1995: 67-8).

At one level, Justice Lockhart’s assertion is true. Having a view or opinion on a matter is very different from demonstrating a capacity to act for the benefit of the public interest in legal proceedings. However, at another level, Justice Lockhart’s statement is somewhat disingenuous. The degree to which a lobbyist is able to influence public and political opinion will have considerable impact on their claim to act as a legal protector of a given public interest, as evidenced by the
success of environmental lobbyists over the last ten to fifteen years in gaining access to the courts. As previously indicated the difference in the legal fortunes of the Right to Life Association and environmental advocates can best be explained by the tactics that each has adopted in persuading the public and politicians of the virtue of their claim. In legal terms, how an advocate argues and seeks to persuade will also play a large part in determining their credibility.

The Right to Life Association was unsuccessful in establishing to the Federal Court’s satisfaction any reliance or expectation by the general community that it represented their interests (Right to Life Association (NSW) Inc v Department of Human Services and Health, 1995: 82 per Beaumont J.). It was unsuccessful, despite the fact that it clearly does represent the interest of sectors of the community. The Federal Court seemed to be of the view that the Right to Life Association had argued from an interested position, rather than a representative one. By simply asserting the moral authority of their position, they had defined themselves as too partisan. This does not mean that compelling moral and ethical arguments supporting certain approaches to governance cannot be made successfully in a legal forum. Environmental advocates make moral and ethical claims, such as the imperative of sustained development or maintaining biological diversity, but they do so within arguments supported by scientific evidence and other disinterested assessments (Rutherford, 1999a).

Civil courts can make decisions on the basis of what is deemed objective evidence; however, they do not consider themselves to have jurisdiction to make decisions on the basis of assertions of moral right and wrong. In terms of Justice
McHugh’s concern in the *Oshlack* case, the court seeks objective reasons for privileging the protection of one interest over another. The presentation of scientific evidence in support of a legal claim allows the court to retain its status as neutral arbiter. It frees the court from any charge that it has recognised the public interest advocate’s claim because of the presiding judge’s personal sympathy for the advocate’s cause. Most importantly it locates the applicant and their public interest claim in a discursive space that allows the court to assess the legitimacy of the claim.

Organisations such as the ACF and AFCO, through their expertise and organisational ability, have both exploited and transformed what Hindess calls the “conceptual and discursive conditions” (1986: 119) within which interest in environmental governance and public health is situated by other institutions such as the courts, government and media. The calculative regimes involved in this governance are products of the confluence of education, expertise and technical ability, as well as the activities and campaigns of governments and other social organisations. Governments attempt to establish some form of social consensus and common interest through the development of particular policy and administrative programmes. Individuals, associations and governments campaign and attempt to persuade others to adopt interests commensurate with those they are pursuing themselves. The very process of attempting to manage and balance interests produces the conditions for the development of particular interests.
Interests as Products of Certain Calculative Regimes

AFCO is an umbrella body that represents, supports and acts on behalf of a range of state and federal consumer organisations. It acts to extend the development of a consumer movement in Australia and supports the formation of consumer organisations. One of its principal tasks is to conduct research, collate opinions and prepare reports on matters affecting consumer organisations and their interests (Australian Federation of Consumer Organisation, Constitution para. 2.1 cited in United States Tobacco Co v Minister for Consumer Affairs, 1988: 512).

Action taken by AFCO regarding the introduction of smokeless tobacco products to the Australian market, illustrates the argument by Hindess that actors are able to assert interests effectively if they are able to locate ‘themselves’ and others in relation to conditions they have assessed and in light of possible changes to them (1986: 126).

The Tobacco Institute of Australia had initiated judicial review of a decision by the Minister for Consumer Affairs to gazette a notice declaring certain smokeless tobacco products to be unsafe. AFCO was successful in its claim to be allowed the role of amicus curiae to the judicial review, as it was able to convince the Federal Court that it was an independent body with specialised knowledge of the potential impact of smokeless tobacco products on the public health. Einfield J stated:

[I]t is clear that AFCO has the respect of the Minister, the Commission and significant sectors of the community as a specialised body with expertise and capacity to assist in the due administration of consumer

Such a depth of knowledge about smokeless tobacco was otherwise not available from any body or person other than the clearly partisan Tobacco Institute of Australia. Justice Einfield, the Federal Court judge at first instance, observed:

The smokeless tobacco products discussion in this case are not widely known and understood. Speaking for myself, I know nothing of them at all except as evidenced in the pleadings and affidavits in these proceedings. AFCO may therefore be of considerable assistance to me in the resolution of the issues to be determined here. Its independence of commercial and government interests provides an additional dimension to the role which AFCO might be able to play if allowed to intervene as an amicus curiae. … But to the extent that such public interest issues are or may become part of the proceedings, it seems to me appropriate that AFCO be permitted to participate as amicus curiae (United States Tobacco Co v Minister for Consumer Affairs, 1988: 538).

The Collective Nature of Interests

While there are numerous instances of courts recognising the plurality of interests and multiplicity of factors that must be balanced in the course of their adjudication, one of the chief hurdles for courts in recognising and acting upon public interest is the very fact that public interests are collective in character. The protection of individual interests is still a significant factor determining the
direction of common law jurisprudence. The categories of individual interest are well established. Because public interests are collective, courts have found it more difficult to identify the exact nature and limits of these interests, and from time to time the claim is heard that “the court is not equipped to assess the interests of the community” (Brennan, 1986: 20). Reflection upon the conditions that allowed the Federal Court in 1989 to grant public interest standing rights to the ACF in *Australian Conservation Foundation v Minister for Resources* (1989) case, following the denial of standing to the same applicant organisation by the High Court in 1980 in a strikingly similar case (*Australian Conservation Foundation Inc v Commonwealth*, 1980), affords a useful illustration of the somewhat nervous legal relationship between individual and collective interests.

As outlined above, standing rights were granted to the ACF in the 1989 case because it demonstrated it possessed the necessary expertise to assess the environmental impact of the proposed logging of old growth forests, which was at the heart of the case, and because its broad based membership afforded the ACF a unique capacity to represent the public concern for the proper management of the National Estate. Largely, the ACF possessed those skills and this capacity when it was denied this standing in the 1980 case, although its involvement in the central dispute in this case did not have the depth and significance that its campaigning and involvement in protecting the southeast Australian native forest had in the 1989 case nearly a decade later.

In the nine years between the two cases, the social and political conditions had changed quite radically, as indeed had the legal conditions. As outlined above, the protection of the public interest has been limited by both the political
constraints on the Attorney General’s capacity to grant his/her fiat and the common law’s long preoccupation with the protection of proprietary and pecuniary interests. It was on these legal obstacles that the ACF had foundered in 1980. By 1989, the Federal Court was prepared to reason its way beyond these obstacles, but they were still on the legal mental map referred to earlier.

The administrative law reform of the late 1970s and early 1980s shifted the judiciary’s perception of the relationship between governments and citizens, particularly in the Federal Court (Allars, 1991: 83). The environment had become a special focus of public concern and legal commentary (Mercer, 1991; Toohey and D'Arcy, 1989). Similar to a number of other environmental organisations, the ACF had become increasingly professional and, through a series of highly visible campaigns around contentious environmental matters, such as the damming of the Franklin River, had successfully claimed a right to speak and be consulted by government (Bonyhady, 1993), as pointed out previously. On the back of a successful claim to represent a broad based public concern about the environment, organisations such as the ACF located themselves as agents for a public that was unable, as individuals, to effectively challenge or remedy failures of environmental governance. In the course of his judgement, Justice Davies, recognising the appropriateness of granting the ACF standing rights in their 1989 case and as if he had been reading some of the social theorists discussed above, found:

[P]ublic perception of the need for the protection and conservation of the natural environment and for the need of bodies such as the ACF to act in
the public interest has noticeably increased, and is demonstrated by the growth of the ACF itself since the time of the 1980 ACF case (Australian Conservation Foundation v Minister for Resources, 1989: 73).

Conclusion

Through such involvement in broad environmental decision making, the ACF and similar environmental non-government organisations were able to claim the mantle of independent experts in the eyes of the common law (Bonyhady, 1993). The scale upon which such organisations were able to monitor environmental governance located them as the most competent representatives of public concern for the environment. The common law thereby subtly broadened its means of calculating the public interest, its pragmatism encouraging its capacity for such rhetorical calculation. Such calculations are heavily influenced by the scientific and risk oriented discourse of the expert, but also, according to Mootz, “a product of our intersubjective experience and history, which, by means of its authority, motivates action” (Mootz, 1999: 323 as cited in, Wickham, 2000: 940).

In a strictly legal sense, of course, the common law is not responsible for initiating environmental agenda or for the modification of environmental regulation. However, the interface between common law rhetorical calculation of public interest concerning the environment and subsequent modification of environmental regulatory practice and governance (Bonyhady, 1993) is an excellent example of the ‘unplanned conjunctions’ of contemporary liberal forms of government, to which theorists of governmentality refer (Hindess, 1986; Miller and Rose, 1990: 1-11).
As with other sites of governance, environmental governance is constantly subject to limits and even failure, and its form and process are frequently contested and shifting. The shape of environmental governance does not follow a rational plan. Programmes of environmental governance are, in many senses, random. Such programmes rely on calculative technologies, which allow the expert assessments necessary for the realisation of particular governmental ambitions (Rutherford, 1999a: 37, 50-57). Environmental governance produces and is determined by a range of ‘heterogeneous and rivalrous’ programmes and alliances (Miller and Rose, 1990: 10). As such, common law rhetorical calculation of the environment as a matter of public interest is part of a much broader picture of environmental governance:

[A] delicate affiliation of a loose assemblage of agents and agencies into a functioning network. This involves alliances formed not only because one agent is dependent upon another for funds, legitimacy or some other resource which can be used for persuasion or compulsion, but also because one actor comes to convince another that their problems or goals are intrinsically linked, that their interests are consonant. This is not so much a process of appealing to mutual interest as of what Callon and Latour term interestment – the construction of allied interests through persuasion, intrigue, calculation or rhetoric. In the process occurs what Callon and Latour refer to as ‘translation’, in which one actor or force is able to require or count upon a particular way of thinking and acting from another, hence assembling them together into a network (Miller and Rose, 1990: 9-10).
ENVIRONMENTAL DISORDER, RISK AND TOXIC TORT

Introduction – Toxic Risk

An action in tort is a legal contest initiated by a plaintiff who seeks compensation from a defendant for the injury or loss he or she has suffered as a result of the defendant’s conduct. Although modern ‘environmental law’ is predominantly statute based, the common law of tort, which has a reputation as being able to ‘mould new remedies for novel situations’\(^1\), has had a unique role in the determination of environmental disputes and in defining environmental obligations. In the wake of the possibility of identifying the effects of exposure to toxic substances and tracing their synergistic effects, the common law principles of negligence and nuisance, which were originally developed in the nineteenth century in response to the new hazards of the industrial age, have been adapted to offer a remedy in the face of a new set of previously unknown hazards (Havemann, 2003: 38-9; Lee, 2000: 81). These types of tort, in which the harm the plaintiff complains of has been caused by exposure to a toxin, such as a virus, chemical or pollutant, have come to be known as ‘toxic torts’. Toxic tort litigation, through its key processes of investigating, judging and reporting on the effects of toxic exposure or the hazardous nature of certain environments and environmental practice, reveals the pervasiveness of certain

\(^1\) New Zealand Royal Commission of Genetic Modification, 2001, quoted in Havemann, 2003: 39
environmental risks (Havemann, 2003: 38). In this chapter, discussion focuses on the tort of negligence causing personal injury. While the damage suffered by the human plaintiff is the immediate subject of such litigation, the personal injury action nevertheless provides some insight into the legal delineation of human environments, as Kroll-Smith and Westervelt observe, “human experience, in short, is always confounded with physical and organic space” (2004: 178). They argue that it is through the ‘body-environment nexus’ that “the reflexive individual, thinking about her body’s well being” is joined “to an awareness and experience of local environments”. The personal injury action allows for a “more elaborated expression of the nexus” as “the cause and effect relationships of sick bodies to suspected or known environmental hazards” is deliberately examined (2004: 178). Toxic tort litigation has become implicated among a diverse range of legal, scientific, social and political techniques of environmental governance. An analysis of tort law reveals, as Rose and Miller have observed, the:

translatability between the moralities, epistemologies and idioms of political power, and the government of a specific problem space, (which) establishes a mutuality between what is desirable and what can be made possible through the calculated activities of political forces (Rose and Miller, 1992: 182).

There are three principal ways in which the doctrine of tort, and toxic tort litigation in particular, act as an adjunct to legal governance of the environment. First, toxic tort litigation is a process which reveals environmental hazard. When an individual
who suffers injury as a result of exposure to a harmful or toxic environment sues in

tort they initiate a legal process that reveals and reports the existence of

environmental hazards, such as an excessive level of asbestos fibre in a workplace or

the addictive and carcinogenic qualities of tobacco or the prevalence of cancer in

people exposed to the radiofrequency radiation of mobile phone towers. This type of

toxic tort litigation acts as a forum for the assessment and condemnation of

environmental hazard. In judging a toxic tort case the court must assess evidence of

the environmental conditions that caused harm to the plaintiff; in making those

calculations a certain form of environmental space and problem is revealed or

identified by the litigation (Kroll-Smith and Westervelt, 2004: 178). Lee notes that

the courts play a ‘significant role’ as ‘a mediating institution’, both in terms of

“mediating between conflicting views and acting as a media through which some

accessible account of the scientific dispute [about the prevalence or source of

environmental harm] and its resolution is broadcast” (2000: 84).

The second way in which toxic tort litigation is a tool of environmental governance

is through the legal endorsement of a environmentally aware forms of self-
governance Peter Cane, one of the foremost commentators on the law of tort,

observes that, “[t]ort law is concerned not only with resolving bilateral disputes

about past events, but also with providing guidance to citizens about how to live

their lives” (1997: 38). At the level of the citizen, tort law may act to deter

environmentally harmful conduct and lend authority to other processes by
establishing standards of conduct and personal responsibility that encourage an environmentally sensitive and risk averse form of self governance.

The third way in which toxic tort litigation is implicated in environmental governance is through the legal endorsement toxic tort decisions lend to broader political and regulatory programmes of environmental management. The process of expert analysis of the environmental risk and harm encountered by a plaintiff not only reveals and assesses particular instances of environmental harm, it also evidences and takes official notice of regulatory failure to govern the environment effectively. The litigation of a toxic tort claim provides the opportunity for “specific exchanges between law and domains of disciplinary regulation” (Saunders, 1994: 11). Saunders argues that “through such exchanges law helps manage residual failures of social policing, while itself drawing special ‘social’ knowledges and techniques from this regulatory sphere” (1994: 11).

Toxic tort litigation is, in a practical and a political sense, distanced from any central or coordinated programme of environmental governance. Toxic tort cases come before a court in an *ad hoc* fashion, at the instigation of plaintiffs who are generally private individuals. However, that does not prevent toxic tort litigation being implicated in the legal governance of the environment. Relevant here is the stress on the dispersal of ‘government’ in the governmentality approach, that is, on the idea “that government is not the preserve of a ‘state’ but is carried on at all level and sites in societies-including the self government of individuals” (O’Malley, 1999b: 679
Lee, developing Cane’s analysis, argues tort law is a means of enforcing ‘social rules,’ saying that liability in tort is determined in the context of certain assumption about socially appropriate conduct (2000: 78).

It is only in the breach of the social rule that the claim will crystallise … the starting assumption is that whatever the vicissitudes of life, disease and disability are not generally the consequences of the action of another. Where this can be shown to be otherwise because a social rule is broken, compensation may follow (Lee, 2000: 78).

This chapter will consider how toxic tort law has become an adjunct to environmental governance, and in turn consider the manner in which the environmental problem is articulated within the domain of tort litigation. It begins with a description of the essential characteristics of the tort of negligence and discusses the some of the predominant features of toxic tort litigation. This is followed by a discussion of the manner in which tort law functions as a technique of legal and social governance, including the practical scientific and procedural limitations which preclude toxic tort litigation being an efficient mode of environmental governance. The chapter concludes with an account of how toxic tort actions readily assume the mantle of public interest litigation. The analysis of toxic tort is continued in Chapter Eight, through an examination of the nexus between the conceptualization of risk and the legal domain. Chapter Eight considers how four different conceptions of risk and risk calculation are employed expressly and
implicitly in the conduct of toxic tort litigation - the scientific, the insurantial, the clinical, and the commonsense conceptions of risk.

**The Tort of Negligence – Its Elements**

Tort, like other areas of the common law, is underwritten by rules of procedure and a long-standing body of legal precedent, bearing the institutional authority of the court, which identifies a recognised pattern of liability. Tort law has developed doctrines to protect an individual’s right to the use and enjoyment of land and other property; the pursuit of financial interests; as well as his or her bodily integrity and reputation. As stated above, this chapter will focus particularly of the tort of negligence causing personal injury. Cane observes that the rules of tort are, “couched in terms of the bilateral relationships between individuals … tort law recognizes no concept of negligence ‘in the air’. Tortious negligence is conduct which affects another in particular ways” (1997: 12). Before a potential plaintiff is in a position to commence an action in negligence a range of factors must converge, these are largely to do with the availability of evidence, and the plaintiff’s ability to establish that their claim fits into a “previously recognised pattern of liability” (Cane, 1997: 7). To attract legal liability, it must be established that the defendant owed the plaintiff a ‘duty of care’ and that the circumstances in which the harm occurred were such that the defendant could have, and should have, acted to prevent the plaintiff being harmed.
The basic rule of tort law is that people are liable for failure to measure up to certain standards of behaviour even if reaching the required standard was beyond their capacities at the relevant time, unless there is some special reason why they should be exempted from liability (Cane, 1997: 31).

If the defendant owes a duty of care the court must determine whether or not the defendant’s deliberate, reckless or negligent action or omission, failed to meet the standard of conduct expected of a person owing such a duty. “In tort law, this line is drawn in terms of the foreseeable and the unforeseeable, the normal and the abnormal, the reasonable and the unreasonable” (Cane, 1997: 178). Once the plaintiff establishes that they have suffered a foreseeable loss or injury as a result of the defendant’s act or omission the court determines what damages (monetary compensation) the defendant must pay the plaintiff. There will be little point initiating proceedings unless that potentially negligent defendant is also insured and/or able to pay any damages that a court might award. A successful plaintiff is therefore not only someone who has suffered harm, but also someone who has suffered an identifiable harm which it can be proved was caused by the negligence of another readily identifiable individual or corporation (the potential defendant), whom the law deems owes the plaintiff a duty of care. The plaintiff will only succeed in a real sense if defendant has the means to pay the plaintiff damages if found liable.
Toxic Torts

Actions in negligence where the harm the plaintiff has suffered has been caused by exposure to a toxin, such as a virus, chemical or pollutant are commonly called ‘toxic torts’. Toxic tort litigation is of particular interest to this thesis, both because this type of litigation is a response to a modern preoccupation with the hazard presented by synthetic chemicals, and also because the litigation has extended established categories of legal liability which shape the ‘body-environment nexus’ (Kroll-Smith and Westervelt, 2004: 178). It is typified not only by the alleged toxic cause of a plaintiff’s injury but also by unique dilemmas of establishing causation, which are not encountered in more routine personal injury litigation. The emergence of toxic tort as an identifiable class of litigation has followed developments in science which have allowed the causes of certain diseases and the side effects of exposure to certain types of chemicals and other toxic substances to be identified (Christie, 1992a: 284; Kune and Kune, 2003; Rabin, 1993: 112; Sugarman, 2002: 96-99). Randall and Gabriel Kune, tracing the manner in which carcinogenesis has become a legal forensic tool, argue that “the concept that human cancers have well defined causes is relatively new”. The development of scientific techniques and method that focused on why and how cancer develops escalated in the early 1960s, following the research of Richard Doll and Austin Bradford Hill which established a causal nexus between tobacco use and lung cancer (Kune and Kune, 2003: 112). For example, as late as 1950 it was still not possible to identify any recognisable causes 

2 Toxic tort as a particular form of negligence action only emerged in the late 1970s, it was first recognised by the ‘Association of Trial Lawyers of America’ as a distinct category of litigation in 1977 (Jasanoff, 1995: 118).
bowel cancer, one of “the commonest cancers in the world”, however by the 1990s the risk factors for bowel cancer were not only quantifiable in a general sense they could be delineated with some precision; it was possible to identify “the proportion of risk attributable to various known causes of bowel cancer, namely inherited factors (15%), dietary factors (50%), excessive alcohol consumption (10%), and smoking (10%)” (Kune and Kune, 2003: 112-13).

Advances in scientific diagnostics and epidemiology may have allowed the possibility of attributing legal liability, but in toxic tort litigation establishing that there is a causal link between the toxic exposure and the injury is often speculative at best. Unlike the typical personal injury claim in which the plaintiff’s injury can be linked relatively easily to an identifiable single event or accident, the toxic tort plaintiff may not be entirely sure when and how they were exposed to the toxin that actually caused their injury. The toxic tort plaintiff’s injury may be latent, suffered as a result of exposure to a toxin some time in the past, making accurate identification of the actual exposure problematic. There may have been a number of opportunities for exposure, each of which implicates different potential defendants. Unless a plaintiff is suffering from a particular ‘signature disease’, such as mesothelioma which is only caused by exposure to asbestos, it is often difficult to establish with certainty that exposure to a specific toxin caused the plaintiff’s current condition. Jasanoff catalogues the factors the plaintiff in a toxic tort action must be able to establish:
To make a persuasive case for compensation, the plaintiff in toxic tort litigation must identify the harmful substance, trace the pathway of exposure, demonstrate that exposure occurred at levels at which harm can result, establish that the identified agent can cause injuries of the kind complained of, and rule out other possible causes. In most toxic tort cases, one or more of these elements is contested … the state of knowledge with respect to many toxic agents is extremely imperfect … what is known about a chemical from the general scientific literature almost always has to be supplemented by knowledge acquired about particular individuals and communities of claimants (1995: 119).

Even when the causal link is established, the court may determine that at the time of the exposure the state of knowledge of the particular toxic hazard was so limited that the harm the plaintiff has suffered was not ‘foreseeable’. That is, the defendant could not have been expected to know of the risk or been able, in a technical sense, to limit the plaintiff’s exposure. If that is the case, then the defendant will not be considered to have breached the duty of care that she or he owed to the plaintiff. It is through the amassing of evidence of causation and the judicial adjudication of the defendant’s duty of care that toxic tort litigation becomes the occasion for the risk of certain toxins to be delineated and which establishes in part the normative framework of environmental governance.
Toxic Tort - Governance

Tort is purposive, particular, and contingent upon a complex and largely unpredictable interaction of non-legal activities. The relative priority of those factors that determine whether an action in tort should be initiated is never entirely stable. The factors include: the terms upon which any action in tort will be contested, and whether the action will have any broader significance than the immediate concerns of the parties involved in the litigation. Despite this constant flux, it is possible to identify several factors around which tort doctrine has evolved, including: the protection of individual autonomy, deterrence of uncivil conduct, and compensation for loss.

The application of tort doctrine reveals a capacity to maintain a broad standard of proper conduct that is able to adapt to the shifting demands of social and economic life. Cane argues that since Lord Atkin’s judgement in *Donoghue v Stevenson* (1932), which is credited with first recognising the tort of negligence and articulating the ‘neighbourhood principle’, the law of tort has developed as a legal expression of “an ethical injunction of extremely wide potential scope – namely ‘take care of your “neighbours”’. As a legal principle, this injunction is hedged about with a complex web of qualifications and exceptions” (Cane, 1997: 7). As a result the law of tort is quite plastic. Since the early part of the twentieth century, tort law has been characterised by the dilemma of managing the protection of individual autonomy and integrity, which was arguably its initial function, against giving due weight to the regulatory regimes and practices which are directed towards enhancing
and achieving the broader object of social well-being and productivity. John Fleming, one of the doctrine’s most influential commentators, in considering the theoretical notion that there is a single standard of negligence notes that:

In practice, there is a noticeable variance in the standard applied to different relations in accordance with current notions of social responsibility and other factors bearing on the allocation of risks. For example, the standard tends to special stringency (‘negligence without fault’) in the case of defendants like motorists and employers who offer a well recognised focus for loss distribution, particularly when insurance is either compulsory or widely held.

… In contrast, a discernible pattern of leniency prevails in judging medical doctors whose professional reputation is peculiarly vulnerable to adverse verdicts. Most noticeable of all is the dual standard in dealing with the respective issues of negligence and contributory negligence; because, here again, the factor of loss-bearing capacity and the policy of aiding loss distribution support alike a distinction which appeals to a widespread contemporary sense of fairness (1992: 123-4).

The degree to which the recognition of the ‘public interest’ and ‘public policy’ have achieved a certain currency in contemporary civil and public law litigation was examined in Chapter Six above. Both concepts have also been employed in tort law as a means of requiring or justifying a court taking into account matters beyond, and perhaps not entirely commensurable with, the issues which either or both of the
parties had initially sought to resolve through litigation, such as the proper management of public resources, or activities having an impact upon the public health and well being. Cane argues that:

> It is unsatisfactory to view tort law solely or even predominantly in terms of the resolution of disputes between individuals because in doing this, courts must always have an eye to the impact on third parties of the way any particular dispute is resolved. It is considerations relevant to this wider impact which the courts refer to by the term ‘policy’ (1997: 227).

Justice Deane, taking a broad view of the inter-relationship of the development of the common law and other tactics and imperatives of social governance, identified and acclaimed the capacity and strengths of the law of negligence and the common law in general:

> The flexibility of fundamental concepts and principles which has enabled the common law to reflect the influence of contemporary standards and demands and which has in no small part underlain its genius to provide the living element of the social compact of civilisation for different peoples through different ages and in different parts of the world (Sutherland Shire Council v Heyman, 1984: 498).
Although the outcome of a negligence action is to some extent predictable to those familiar with the reasoning, evidence, legal precedent, and practice that the court will accept or be guided by, it is never fixed. The common law is a fluid body of law inexorably modified, albeit slowly, through the development of precedent, it is simultaneously being constructed within a wider discourse than that determined by preceding case law. Justice McHugh makes the extra-curial observation that the application of tort doctrine, “depend not only upon the ascertainment of facts but on a moral and social evaluation of those facts. As a result there is a range of possible judgements in any given situation” (1989: 13).

The types of harm which communities and courts and legislatures are conscious of and concerned about have shifted over the last half of the twentieth century. Laster and O’Malley argue that cultural and political sensibilities, and in their wake legal sensibilities, have become more attuned to the notion that individuals and even collective entities such as communities may not only suffer loss as a result of harm which is more or less physically visible and calculable, but also suffer compensable loss as a result of psychological and emotional harm (1996: 23-24).

Abstract notions of ‘the public’ or ‘the community’ have been used to justify the introduction of tougher laws against threats to the public, for example with respect to poisoning food, bomb hoaxes etc. Old legal doctrines such as the concept of ‘public nuisance’ have been reformulated to embrace new types of behaviour involving danger to the community as a
whole rather than actual harm to specific persons or property (Laster and O’Malley, 1996: 30).

How to govern in the face of scientific uncertainty is at the heart of the modern environmental problem. Many of the environmental hazards encountered at the turn of twentieth century are not immediately visible, they are “localized in the sphere of physical and chemical formulas” (Beck 1992b: 21). Unlike the hazards of the industrial age, their toxicity is not immediately evident to the senses and initially the risks which attach to these toxins “exist in scientific knowledge rather than everyday experience” (Lupton, 1999: 64). Toxic tort has been one of many different forms of legal response to the unanticipated hazards of twentieth century technology and consumption. Developments in science, certain beliefs in environmental justice, together with incentives and opportunities taken up by lawyers\(^3\) are all implicated in the emergence of the specific doctrine of toxic tort (Cannon, 1998; 243-58; Jasanoff, 1995: 15; Pugh and Day, 1995; Rabin, 2001).

Toxic tort litigation relating to the harms of passive smoking is a good example of toxic tort’s role in articulating the relationship between our body, hazard and environment. The medicalisation and consequent legal interest in passive smoking was made possible by a rethinking or ‘stylisation’ of tobacco smoke within the

\(^3\) The trajectory of toxic tort litigation is continuously opportunistic; the inspiration for the emergence of toxic tort as a specialist form of negligence action was the liberalization of product liability law in the United States, to allow the law to compensate victims who would otherwise have been unable to establish causation (Jasanoff, 1995: 31). Since the early 1990s tobacco litigation in the United States has seen an unprecedented coordination of efforts by plaintiffs’ lawyers, from which have emerged sophisticated legal strategies and powerful networks (Rabin, 2001: 336, 354).
epidemiological literature. The “previously invisible passive smoker” was revealed through a simple and technical distinction being drawn between mainstream and sidestream smoke. The distinction produced new epidemiological questions; research was conducted to ascertain the risk presented by exposure to sidestream smoke – passive smoking. Biochemical markers of the effects of sidestream smoke were developed and further epidemiological study was undertaken of the health impacts of passive smoking on its most likely victims, the spouses of smokers (Jackson, 1994: 423, 434-35). Significantly, scientific evidence of the hazards of smoking shifted “the conceptual boundaries of smoking”, redrawing them around “new sets of consequences and responsibilities concerning the use of tobacco” (Jackson, 1994: 424). Once identified, quantified, and chemically described, ‘sidestream smoke’ became something more than an affront to the aesthetic sensibilities of non-smokers, it became a potential hazard, and smoking became an activity which constrained “lifestyle choices rather than expressing them” (Jackson, 1994: 424). Knowledge of the toxic environment smoking creates for nearby non-smokers has since the early 1990s been the subject of public health campaigns and is now the basis of legislation in Australia, the United States and Britain all of which ban smoking in workplaces, pubs, restaurants and other public venues. Kearns notes that “changing views of smoking and the reassertion of scientific evidence demonstrating its harmful effects [for non-smokers] have triggered three waves of

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4 In 2005 The World Health Organization’s Framework Convention on Tobacco Control came into force, its object is to establish measures which will counter the health, social and environmental consequences of tobacco consumption. The Australian Federal, State and Territory governments have adopted “The National Tobacco Strategy’ its object is to counter the health and social costs of tobacco consumption.
tobacco litigation” (1999: 1338). Harm caused by involuntary exposure to environmental tobacco smoke has been the subject of toxic tort actions in the United States and Australia (*Broin v. Phillip Morris Co*, 1994; *Cameron v Qantas Airways Ltd*, 1995). A year before the United States Environmental Protection Agency designated “environmental tobacco smoke as a known human lung carcinogen with no established safe level of exposure” (Rabin, 2001: 342), the case of *Broin* was initiated on behalf of non-smoking flight attendants who were involuntarily exposed to the second hand smoke of passengers as they worked in the confines of the aircraft cabin. *Cameron’s* case was a representative action involving ten non-smoking passengers on a Qantas international flight. The plaintiff passengers had requested non-smoking seats and were allocated seats immediately adjacent to the smoking area of the plane, nine of the ten passengers suffered ill effects from being exposed to the cabin smoke for the duration of the long haul flight.

The Australian case signaled the waning tolerance of non-smokers for environmental tobacco smoke (Orr, 1996:96). While the American case went so far as to directly assert the responsibility of the tobacco industry for the environmental hazards created by smoking, and along with the state health care reimbursement cases marked what is commonly known as the second wave of tobacco litigation (Kearns, 1999: 1340). The plaintiffs in *Cameron* lost their case on appeal. The appeal court

5 Mississippi Attorney General Michael Moore joined by other state attorneys alleged the states had suffered direct harm in the form of the Medicaid funds spent on treating people with tobacco related illnesses. They sought restitution for benefits conferred on the tobacco industry by providing health care for injured smokers; *Complainant, Moore ex rel. Mississippi v. American Tobacco Co.*, No 94-1249 (Miss. Ch. Filed May 23, 1994) (see Kearns, 1999: 1340-41).
considered that the harm the plaintiffs had suffered was relatively minor. The court also held that the plaintiffs’ harm had been self-assumed, as no evidence had been led by the plaintiffs that they would have changed their travel plans to avoid the risk of being exposed to environmental tobacco smoke, although, short of taking a ship, the plaintiffs’ travel options were limited and controlled by the defendant airline (Orr, 1996: 94-5). By contrast, the Broin case settled for $349 million, which was to fund a scientific research foundation rather than compensate the individual plaintiffs. The defendant also made legal concessions regarding any future flight attendant cases (Rabin, 2001: 343). Settlement was not inspired it seems by the strength of the plaintiffs’ case; despite being sympathetic plaintiffs, and even though the fact that the ambience of the smoking end of the an aircraft cabin was all too familiar, the epidemiological data on workplace exposure to environmental tobacco smoke was unlikely to be strong enough to establish causation if the matter had gone to trial (Rabin, 2001: 343). It appears that settlement was an attempt by the tobacco industry to “build a positive image”, as well as marking the industry’s vulnerability in the face of a class action (Rabin, 2001: 342; Kearns, 1999: 1340). Certainly, settlement meant that there was no public trial of the scientific evidence, and hence the litigation did not become a medium through which the hazard presented by passive smoking could be assessed, articulated and made public. In that sense, beyond the fact that Broin and Cameron predated regulatory action on the hazards of environmental tobacco smoke, the passive smoking cases could not really be said to be any kind of example of the runaway success of tort litigation as an adjunct of environmental governance. However, taking up Jackson’s (1994: 441) contention
that the scientific conceptualizations of passive smoking as a health hazard were not simply “neutral descriptions of an empirical reality” made visible by scientific research but rather, they were constructed through “a particular conception of the relationship between body and environment”, it could be argued that the tort litigation and its attempt to relocate environmental responsibility was a further expression of that relationship. As Valverde argues:

The parties to a legal case can be said to constitute knowledge in the very process of ‘using’ it, while courts and tribunals can be usefully regarded as further constituting knowledge in the process of evaluating evidence and drawing conclusions from it (2003: 5).

Despite the difficulties of establishing causation, the late twentieth century saw the emergence of a widespread and sophisticated appreciation of the risk of certain chemicals and other hazardous products to public health and the environment, an appreciation which is informed by science and underwrites and drives toxic tort litigation (Jasanoff, 1995; Lee, 2000; Pugh and Day, 1991). It is a driving force which has led the law to develop in such a way that some cases may succeed even “where causal association could not be definitively established” (Jasanoff, 1995: 118).

Critics of the development of tort law such as Atiyah (1997) and Huber (1991) claim that its principles have developed to the point that a tort claim now allows an
individual to rationalise his or her misfortune through tenuous connections to improbable causes (Jasanoff, 1995: 16). In the United States it has been argued with some success, by commentators such as Huber and the conservative think tanks which sponsor his work, that the courts attach legal liability to the consequences of technological innovation on the basis of little more than ‘junk science’, and misguided risk anxiety, and as a consequence undermine the potential public benefit of new technologies such as nuclear power and mass produced vaccines. But is such risk anxiety misguided or is it informed by an alternate set of priorities? Research by cognitive psychologists has demonstrated that:

‘lay’ people evaluate health and environmental threats according to a different set of criteria than may be reflected in expert assessments. … [T]he risk perception of lay members of the community appears to be influenced by various contextual factors that lie outside the realm of scientific research (Peel, 2005: 68).

These factors include: familiarity with a technology, the degree of control which can be asserted over it, and the potential for the application of the technology to have catastrophic effects (Peel, 2005: 68). Jasanoff observes that the type of argument made by Huber ignores the fact that:

people will tolerate a higher probability of death and injury from activities that they feel they can meaningfully control (smoking, eating, automobile
driving) then from activities that heighten their sense of powerlessness or distrust (nuclear power, pesticide use, air transportation) (1995: 13).

**Toxic Tort - Test Case Litigation in the Public Interest**

In many respects there is not much that set toxic torts apart from other types of negligence action. Other than the alleged toxic cause of the plaintiff’s injury, the same elements of the action have to be established and considered. Toxic tort cases are more likely, however, to present the opportunity for test case litigation. This is unlike most negligence actions, which are usually settled before they reach the trial stage on the basis of fairly well defined and accepted legal principles. Defendants in toxic tort actions are more likely to chance the consequences of going to trial because of the difficulty of successfully establishing causation (Pugh and Day, 1991: 1549). There are also a range of moral, emotional and social factors, which may also mean the plaintiff and his/her representatives are more determined to have the case litigated despite the uncertainty of the trial (Pugh and Day, 1991: 1549; Cashman, 1992). Jasanoff argues that the court room becomes a place for giving voice to disquiet:

Courts are often the first social institutions to give public voice and meaning to inaudible struggles between human communities and their technological creations. Technological trajectories are therefore importantly steered by events within the legal system (1995: 12).
Tort law as a doctrine has a significant attraction, not enjoyed by the regulation heavy public law doctrines; it has remained, despite its responsiveness to the implementation of broad social agendas, oriented to the individual (Rose-Ackerman, 1991). Not simply in its process but also, as the US legal commentator Peter Schuck suggests, because its outcomes are intelligible and relevant beyond the court room:

Tort law is ... peculiarly transparent and accessible to public understanding. On the surface, tort doctrines tend to be simple, straightforward, and perfectly intelligible compared to the technical, abstract doctrines of much contemporary law. (Less obvious, but equally important, are the ways in which these doctrines connect to prevailing belief systems and public policy goals.) ... Tort law is law with a human face, one that is both recognisable and ubiquitous (1991: 21).

Schuck's assessment of the transparent nature of tort may need a little qualification. Below the surface tort principles are not necessarily what they might at first seem. Conaghan and Mansell argue that the ‘extraordinary emptiness’ of the neighbour principle has allowed judges to mould the duty of care as they see fit rather than according to a readily identifiable criteria (1993: 12-13). Other commentators have also been critical of the degree to which courts have often obfuscated the true public policy goal that certain principles privilege (Atiyah, 1997: 1; McHugh, 1989: 38-9).
Compensation for their usually terminal injuries is not always the only factor motivating a plaintiff in toxic tort litigation (Cannon, 1998). In toxic tort cases, plaintiffs have often been prepared to take their case to trial, even in the last months of their life, because they wished to salvage something from their untimely death. Compensation to provide some sort of economic security for their family is no doubt important, but a public vindication that they, and people like them, have been unnecessarily and sometimes callously harmed seems in many cases to be a prime motivation, or at least justification for choosing to litigate rather than settle. Rabin argues that:

While tort litigation has often served a distinctive dual role in awarding compensation and sanctioning wrongdoing in cases involving larger issues of public concern, it has been most effective in this regard when the plaintiff’s claim crystallises an unsatisfied demand for political action (Rabin, 1993: 127).

Toxic tort litigation is often conducted for the claimed benefit of the wider community. Despite being a private law action toxic tort litigation is sometimes characterised as a ‘public interest’ action which promotes environmental justice (Cashman, 1991, 1992; Pugh and Day, 1991; Toffolon-Weiss and Roberts, 2004). English tort lawyers, Pugh and Day, are with Rabin when they suggest that:

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6 This is the author’s own assessment, based on her experience working closely with toxic tort plaintiffs as an articled clerk and solicitor with the ‘plaintiffs’ law firm, Slater and Gordon, Footscray Victoria 1990-1991.
The spate of personal injury claims resulting from environmental pollution (commenced in the last three years) indicate the public's increasing preparedness to take on big businesses and an increasing concern for the environment (1991: 1549).

The plaintiff in a toxic tort action may be representative of a wider class of individuals who have suffered similar harm; the harm may be of a relatively ‘new’ or hitherto unregulated kind, to which the litigation will draw legislative/political attention. In the United States toxic tort cases are usually ‘class-actions’ or ‘mass torts’. The use of the term ‘toxic tort’ in Australia, and in this discussion, refers principally to actions initiated by individual plaintiffs, quite often as ‘test cases’ which if successful will allow the more ready admission of liability and settlement in similar cases, as well as to actions commenced on behalf of an identified ‘class’ of plaintiffs. Test case litigation and the attendant adverse publicity has undoubtedly provided some momentum for public protest and government action which has forced the asbestos manufacturer James Hardie to establish a ‘Special Purpose Fund’ in NSW adequate to meet future liabilities to victims exposed to James Hardie asbestos products (ABC Online, 2006).

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7 In the United States the term toxic tort is associated most commonly with class action law suits or ‘mass torts’ (Toffolon-Weiss and Roberts, 2004: 260). In Australia Part IVA of the Federal Court of Australia Act 1976 (Cth) makes provision for representative actions on behalf of not less than seven individual plaintiffs where the claim of all of those plaintiffs arises out of the same or similar circumstances and gives rise to substantial common law issues of law or fact.
The Ok Tedi litigation is a striking example of how toxic tort litigation can become the focus and impetus for a very public struggle over resource use and environmental responsibility. The litigation settled on terms favourable to the plaintiffs, largely because of the extensive and adverse attention it drew to the environmental devastation caused by the defendants’ mining operation. BHP Ltd, through Ok Tedi Mining Limited, had established a copper mine on Mount Fubilan above the Ok Tedi and Fly rivers in Papua New Guinea. From about 1984 the Ok Tedi mine operation dumped millions of tons of toxic tailings into the Ok Tedi River. As a result the river silted up. Its water was no longer safe to drink or use for bathing, fish species died or became affected to the point that they were no longer a viable food source, sago-palms which were another dietary staple and grew along the river’s banks ceased to be productive. BHP had paid a token amount of compensation to affected landholders, and established some alternative infrastructure in villages to compensate for loss of water and food sources. However, neither the compensation nor infrastructure was enough to ameliorate the impact upon the local people, whose dependence on the river for their livelihood was so total (Cannon, 1998: 243-46). By early 1990 the situation had become so desperate that over 2000 villagers protested and blocked access to the mine site, causing its temporary closure. The protesters claimed substantial, rather than token, compensation, the rebuilding of the shanty town adjacent to the mine-site, as well as the establishment of a loan scheme to fund alternative business (Cannon, 1998: 246). The local public protest was quelled and the mine reopened. However, largely through the efforts of a local man Rex Dargi, the concerns of the protest were taken
up by the Western Province Council who attempted to resolve the situation through litigation in the hope of avoiding the violence and unrest which beset neighboring Bougainville. By 1992 the Australian plaintiffs’ firm Slater and Gordon had become involved, and by early 1994 up to 30,000 plaintiffs from 500 clans who lived along the river had signed agreements to participate in class actions as plaintiffs. A writ was issued on behalf of Rex Dargi and the Miripiki clan in the Supreme Court of Victoria on 5 May 1994 and further writs were issued in the Papua New Guinea Supreme Court in September 1994 (Cannon, 1998: 248-49). Issuing proceedings in the Victorian Supreme Court was without any clear precedent and counter to expert legal opinion, but in that sense it was all the more dramatic. When they announced their intention to issue the proceedings against BHP in Victoria at press conferences on the 3 May 1994, Slater and Gordon provided the media with professionally produced video footage of the pollution of the Ok Tedi River (Cannon, 1998: 248-9). The litigation strategy was “to ensure as big a blaze of publicity as possible – to tell anyone in the media who would listen that the reason we issued the writ in Melbourne was because it was BHP’s hometown” and “to bring home to the BHP directors and their ‘establishment’ constituency exactly what was happening to the Ok Tedi River” (Plaintiff’s lawyer, Nick Sty rant-Browne of the firm Slater and Gordon, quoted in Cannon, 1998: 249). The litigation involved massive adverse publicity for BHP and the Papua New Guinea government, which they attempted to counter through media campaigns of their own. In an effort to stop the litigation the defendants initiated numerous challenges by way of interlocutory proceedings. There were also threats against plaintiffs’ lawyers in Papua New Guinea, as well as
numerous attempts to pay off plaintiffs (Cannon, 1998: 251-57). The tort litigation was taken over for a time by other legal proceedings and political machinations. These followed an attempt by the Papua New Guinea government, aided by the defendant, to outlaw Papua New Guinean citizens instituting proceedings in a foreign jurisdiction (a heavy handed and desperate tactic that drew further publicity to the plaintiffs’ cause). Ultimately, however, the plaintiffs’ tenacity, and the adverse publicity BHP received forced a substantial settlement in June 1996, which cost BHP up to $560 million dollars (Cannon, 1998: 257).

The Ok-Tedi plaintiffs claimed compensation for damage to the environment and loss of livelihood, but it did not include claims for personal injury. In contrast, in the United States toxic tort actions for damages for personal injury have become a means of claiming environmental justice on behalf of people who “have limited property interest to be brought to bear on pursuing a public nuisance lawsuit. Thus many toxic torts brought by environmental activists focus on personal injury law” (Toffolon-Weiss and Roberts, 2004: 261). Toffolon-Weiss and Roberts argue that success in such actions is far from guaranteed for a number of reasons, including the legal and political resources of the plaintiffs and the particularly difficult evidential challenge of establishing the plaintiffs’ injuries were caused by toxic environmental exposure. Proving causation is confounded by a number of factors. Because the poor receive less adequate medical care, their available medical records provide only limited baseline data on which to establish their health before and after exposure; it is not difficult for defendants to argue that deterioration of the plaintiff’s health may
be due to unhealthy lifestyles and diet; and often the available scientific evidence and health studies about the effects of exposure to particular toxins is limited, simply because it has not received the same degree of scientific attention as other carcinogens such as tobacco (Toffolon-Weiss and Roberts, 2004: 261-2). As the Ok Tedi example demonstrates the actual legal action in an environmental dispute needs to be part of a broader strategy, Toffolon-Weiss and Roberts argue:

Winning an environmental struggle is not as simple as securing a lawyer and launching a lawsuit. The protest group must make sure their message appeals to the current cultural milieu in a way that attracts media attention, outside support, and resources. In addition, the lawyer and protest group must be able to survey the political landscape, identify allies and openings and plan accordingly (2004: 268).

Despite the difficulties involved, bringing class actions, and contingency fee arrangements in the United States, allows the strategic coordination and combination of resources of many people who would otherwise be ineffectual individual plaintiffs, if indeed they ever had the capacity to become plaintiffs at all (Rabin, 2001: 335; Sirabionian, 2005: 495). As a result toxic tort actions have often become mass actions, with a capacity, if the right strategy is employed inside and outside the court room, to leave a defendant corporation decimated by bankruptcy and uninsurable, as was the case with the world’s largest asbestos manufacturer Johns Manville (Jasanoff, 1995: 16; Rabin, 2001-02: 337). Rabin notes that one of the
legacies of mass tobacco litigation in the United States has been, “the sheer force (and fear) of high stakes litigation coercing an industry to the bargaining table where compensation and some form of remedial action can be extracted” (2001: 357). Further, class action toxic tort in the United States presents the possibility of achieving some measure of environmental justice for individuals who would otherwise be too under-resourced, financially, legally, strategically and politically to obtain any redress or voice their dissent (Rabin, 2001: 335; Sirabionian, 2005: 506).

Mounting a class action is nonetheless problematic being certified by the court as a class in a personal injury action is not guaranteed. Kanner, a US environmental lawyer, observes that the United States courts are becoming reluctant “to allow manifest personal injury claims to proceed as a class action” (quoted in Toffolon-Weiss and Roberts, 2004: 262). Sirabionian notes that federal courts have expressed concern about the significant role played by the jury in class actions, that “commits the fate of an entire industry or, indeed, the fate of a class of millions, to a single jury” (Castano v American Tobacco Co. (1996) quoted in 2005: 495). It is certainly difficult for a class of plaintiffs in a personal injury case, where the nature and extent of injuries may vary so much among that class, to meet the ‘commonality’ requirement which governs the certification of federal court class actions (Rabin, 2001: 334-35; Sirabionian, 2005: 495). The federal courts have for a variety of strategic and technical legal reasons been the preferred jurisdiction in which to initiate nationwide class action. However, the federal courts are reluctant to certify
such actions when the action is actually based predominantly on state law (Kanner quoted in Toffolon-Weiss and Roberts, 2004: 262).

The ‘third wave’ of tobacco litigation has been typified by mass actions, such as Castano issued in the Federal court, the ‘son of Castano’ cases issued in a number of state courts, and the Engle litigation in Florida (Engle v. R.J Reynolds Tobacco Co, 2000), despite some spectacular successes at trial most of these actions have eventually been dismissed or appealed, leaving their outcome uncertain (Rabin, 2001: 334-336). However, as Rabin observes, these mass actions have nevertheless “created sufficient unpredictability about a potentially catastrophic loss to persuade the industry finally to consider the prospect of settlement” (2001: 334-336). Mass tort action may be likened to “very high stakes poker” (Rabin, 2001: 336). Alone it is not a viable means of environmental governance. But it evidences, albeit audaciously, Robert Lee’s observation that modern systems of environmental regulation:

Heightens the position of the courts which come to occupy a role of last resort their role is truly one of corrective justice in the face of obvious system failure. … [L]ess day to day dependence on the court room actually promotes its significance when called into play (2000: 86).

As a unique legal response to the environmental problem, toxic tort demonstrates the productive force of failure in its capacity to inspire and generate further attempts to
articulate, calculate, problematise, and manage a particular population, space, entity, or activity (Miller and Rose, 1990; Hunt and Wickham, 1994; Malpas and Wickham, 1995). At the same time because scientific knowledge is not necessarily applied according to scientific regimes of proof in the courtroom, the attribution of liability and the bona-fides of toxic tort litigation in general have been subject to contest in a legal and political sense (Edmund and Mercer, 2004; Jasanoff, 1995; Morrow, 2000). Certainly, as Morrow observes,

the idea that environmental threats may justify proactive action even in the absence of firm scientific information is inherently appealing from an environmental perspective. However … it creates significant difficulties in a common law context (2000: 149 n.51).

**Toxic Tort - Its Limits as a Tool of Environmental Governance**

Jasanoff observes that by the 1980s, “[h]ow tort law should deal with scientific uncertainty emerged as a key item for discussion within a wider debate about how to strike an equitable and efficient balance between the producers and innocent victim of toxic chemicals” (1995: 118). The barriers to being successful as a plaintiff are many. Toxic tort litigation is an inefficient means of compensating for injury its rewards may be high, but the transaction costs of winning a toxic tort suit are also high; success is not guaranteed, and suits are only won by a relatively small pool of plaintiffs (Atiyah, 1997: 1; Jasanoff, 1995: 15).
There is a body of commentary which focuses on whether expectations attached to tort as remedy for environmental damage are realistic (Kroll-Smith and Westervelt, 2004; Lowry and Edmunds, 2000; Cashman, 1992; Rabin 2001; Santos, 1995; Sirabionian 2005; Toffolon-Weiss and Roberts, 2004). For example, Lee’s discussion of both the potential and inherent limits of tort law as a tool of environmental governance, discussed in more detail below, is a response to a European Union White Paper on environmental liability which proposed among other things that public interest groups might employ private law actions to curtail environmental damage (2000: 77). After a survey of recent British case law, Karen Morrow argues, that many nineteenth century judges “regarded themselves and the common law as having a dynamic and significant role to play in adapting existing concepts to new social conditions”, and gave the torts of nuisance and the rule in *Rylands v Fletcher* the role of providing some form of remedy for pollution, albeit *ad hoc* (2000: 158). She argues, however, in the late twentieth century despite its heightened environmental awareness, there has been a distinct want of judicial activism to protect the environment on issues such as causation and foreseeability of damage (2000: 151). Instead there appears to be an expectation that the legislature will act, therefore making it unnecessary for the courts to ‘take decisive steps’ to find a common law remedy to the environmental problem. Morrow cites, as many other British commentators now have, Lord Goff’s approach in *Cambridge Water* (1994):
It does not follow … that a common law principle, such as the rule in *Rylands v. Fletcher*, should be developed or rendered more strict to provide for liability in respect of such pollution. On the contrary, given that so much well-informed and carefully structured legislation is now being put in place for this purpose, there is less need for the courts to develop a common law principle to achieve the same end (Morrow, 2000: 158).

In comparison with toxic tort the focus of statutory schemes tends to be more oriented to the public interest and facilitating systems of self regulation, providing systems for checking environmentally detrimental development, ensuring safer working environments, and providing a framework within which specific industries negotiate the licensing and containing of pollution (Lee, 2000: 86). While such statutory frameworks may allow the operation of the precautionary principle in the face of scientific uncertainty about the possibility of environmental harm (Peel, 2005), they do not provide the same degree of redress and compensation which the torts of negligence and nuisance potentially provide for the individual victim of environmental damage (Morrow, 2000: 159; Kroll-Smith and Westervelt, 2004).

Toxic tort provides only a potential for redress. As indicated, there are fundamental impediments to making a successful claim. The most significant of these is the fault based requirement of negligence which as Morrow notes “has come to dominate the law of torts, culminating in an almost visceral rejection of alternative strategies for imposing liability” (2000: 157). Claims in toxic tort are simply not possible if the
cause of the plaintiff’s harm and the person or organisation and activity responsible for the plaintiff’s toxic exposure cannot be traced. Two quite different examples of how causation can be problematic are instructive here: the first relates to the difficulties which might be encountered in establishing a causal nexus between the toxic hazard and the harm suffered by the plaintiff; the second demonstrates the limited potential for success of personal injury actions in relation to the risk presented by relatively novel forms of technology, such as the radiofrequency radiation emitted by mobile phone systems.

To the first example the “spatial and geographical reaches of risks now generated” mean that nuisance or negligence actions, in which the plaintiff claims that their land, livestock or health has been affected by toxic emissions, are difficult to sustain unless the plaintiff can point to the “localised and direct impact” of a toxic emission. Such cases are, Lee argues, ‘increasingly atypical’ (2000: 82). However, even when the plaintiff can point to such conditions, as in the case of Hanrahan v. Merck, Sharp & Dohme (Ireland) Ltd (1988), causation may be nevertheless difficult to prove. In Hanrahan’s case the plaintiff’s farm was relatively remote from all but one obvious source of toxic emission, which was the defendant’s pharmaceutical plant situated only a mile from the farm. The plaintiffs’ success came only on appeal before a court which was prepared to adopt an approach to determining causation that placed greater emphasis on “damage visible to ordinary persons conversant with the subject matter” rather than scientific evidence (Morrow, 2000: 145, 141-9). On appeal, Henchy J. found that the defendant’s expert scientific evidence, based on readings of
emissions from the plant and computer models, did not pay due attention to the “real physical context of the emissions” as evidenced by the plaintiff’s witnesses. The Hanrahan family’s evidence regarding smells emanating from the plant was corroborated by other local people called as witnesses, as well as by the plant’s own personnel who had dealt with complaints about the plant. Henchy J. considered this evidence credibly proved on the balance of probabilities that the emission from the defendant’s plant were the cause of the plaintiff’s injuries. He held, “[t]heoretical or inductive evidence cannot be allowed to displace proven facts … it would be to allow scientific theory to dethrone fact” (quoted in Morrow, 2000: 146).

The second example highlights the difficulty of establishing a toxic tort claim which is not supported by an established body of definitive scientific evidence. The introduction of mobile telephones, associated technology and infrastructure has raised the spectre of cancer being caused by radiofrequency radiation (RFR), emitted from the phones themselves and/or the mobile phone towers necessary to support mobile phone networks (Peel, 2005: 106). Public concern about the risk of RFR, coupled with the want of scientific certainty as to the risk, is serious enough to have generated independent inquiries into the risk in several western countries (Capriotti, 2002: 2-3; Peel, 2005: 108-9). Peel reports that those inquiries have generally found that the technology can operate within what, on current knowledge, appear to be safe emission standards (Peel, 2005: 108-9). However, dissenting scientific opinion, the validity of public concern, and the need to take decisive action in the face of such
anxiety, have not been entirely dismissed. For example, the United Kingdom Stewart Report recommended in 2000:

Although it seems highly unlikely that the low levels of RF radiation from base stations would have significant, direct adverse effects on health, the possibility of harm from exposures insufficient to cause important heating of tissues cannot yet be ruled out with confidence. Furthermore the anxieties that some people feel when this uncertainty is ignored can in themselves affect their well-being (quoted in Peel, 2005: 109).

While there has been certain regulatory action surrounding the application of mobile phone technology, including: close monitoring and revision of emission safety standards, insistence on the application of a precautionary approach to the siting of mobile phone towers, and the provision for merits review of planning decisions involving mobile phone infrastructure, public concern regarding RFR emissions has not generated a successful body of toxic tort litigation. In the United States ‘cell phone’ litigation has not been successful. In *Verb v Motorola Inc* (1996), the Court observed that determining whether a technology presents a health hazard is the proper function of the administrative agencies not the courts (Capriotti, 2002). Despite its widespread use, mobile phone technology is too new to as yet have produced ‘objective’ data, such as large cohort epidemiological studies, which evidence the hazards of radiofrequency radiation with enough authority to sustain a successful action in tort (Capriotti, 2002: 4; Kune and Kune, 2003: 120).
Concern about the effects of exposure to RFR is typical of the general anxiety about the risks presented by the technical innovation of the late twentieth century. Havemann observes that:

Innumerable less visible and unpredictable side effects of modernization are now emerging. These include damage from unanticipated, persistent, irreversible, small-volume but high-toxicity, bio-accumulative substances arising from MTRs [major technological risks] (Havemann, 2003: 15).

In the face of such ‘environmental disorder’, both Havemann and Lee have observed that actions such as toxic tort, founded as they are on principles of negligence developed in the nineteenth century, may become less useful as a foundation for legal action (Havemann, 2003: 38-9; Lee, 2000: 81). Lee argues that:

Tort lawyers need to consider what may happen in a society in which the risks which it generates pay no respect to geographical (or jurisdictional) boundaries, temporal (or limitation) links and social (duty) relationships between those creating the harm and those who are victims of it (2000: 82).

Toxic tort’s capacity to respond adequately to late-modernity’s environmental disorder may eventually mean that it is abandoned as a tool of environmental governance. However, there are examples of functional toxic tort; tobacco and
asbestos litigation fit within the practical limits imposed by scientific knowledge and the requirements of legal causation. The hazards of exposure to tobacco and asbestos are now readily identifiable and scientific evidence of the injuries that can be caused by exposure to each toxin is documented (Kune and Kune, 2003). Public concern and knowledge of the risks associated with asbestos and tobacco is sophisticated and widespread (Rabin, 2001: 352). Plaintiff lawyers specialist in this type of litigation can usually identify a cohort potential of defendants. Significantly, both asbestos and tobacco litigation have been instrumental in revealing environmental and public health hazards. Discussing the impact of tobacco litigation Rabin observes:

As in the earlier case of asbestos, the full story of conscious industry disregard for the health effects of its profit making activity might never have become part of the public record in the absence of tort litigation.

If this is correct, tort law in the tobacco context is most assuredly public law, not so much because of its social welfare character as a compensatory mechanism, nor for its regulatory character as a medium for establishing proper incentives for safety, but for its contribution to the unfolding documentation of public affairs (2001: 353).

It is argued here that these two lines of toxic tort litigation provide a useful basis for considering the common law’s engagement with concepts of risk (the subject of the

8 Although, both types of toxic tort arguably mark the limit to the possible innovation of the principles of legal causation which developed in response to the hazards of the industrial age.
following chapter). Not only because the focus of the litigation is the plaintiff’s exposure to toxic substances and often latent harms, but also because the prevalence of this type of litigation is a response to a modern preoccupation with the risk presented by synthetic chemicals. As Jenny Steele has observed in her study of risk and law:

‘[R]isk’ has been increasingly associated with a focus on the individual, both in terms of choice and to some extent in terms of responsibility. Against this background, the environmental context appears to be distinctive because here, recognition of subjectivity, diversity, and even critical independence in respect of risk, has come hand in hand with increasing ambitions to achieve some sort of ‘control’ over hazard creation (2004: 160).

Throughout the thesis it has been argued, that the environment as a legal subject is partially created through the nexus between the conceptualization of risk and the legal domain in terms of the adjudication of disputes involving potential environmental harm or toxic environmental hazards.
Chapter Eight

TOXIC TORT AND THE ARTICULATION OF RISK

Introduction - Risk Anxiety

Toxic tort litigation is a means by which the individual’s experience of and relationship to the environment is articulated (Katzman, 1986; Pugh and Day, 1991). Through its key processes of investigating, judging and reporting on the effects of toxic exposure or the hazardous nature of certain environments and environmental practice, the litigation reveals the pervasiveness of certain environmental risks and has become implicated among a diverse range of legal, scientific, social and political techniques of environmental governance. It is through toxic tort litigation that the environment is in part articulated as a modern legal subject.

The chapter considers how different conceptions of risk and risk calculation and the manner in which they are employed expressly and implicitly in the conduct of toxic tort litigation. These are: the insurantial, the scientific, the clinical, and the common-sense conceptions of risk. All toxic tort litigation is conducted within a regime of liability insurance delimited by actuarial calculations of risk. Scientific calculations of risk, such as those produced by epidemiology, form a key part of the evidence of causation led in toxic tort actions. And both clinical, and common-sense or everyday notions of risk are implicit in the court’s appreciation of the plaintiff’s personal, and
quite specific, experience and exposure to risk. This appreciation informs the court’s judgment of both the plaintiff and defendants’ behaviour in the face of such exposure. Analysis in this chapter focuses on how conceptions and calculations of risk inform and circumscribe assessments of legal liability in toxic tort litigation. Peter Cane’s ‘correlative analysis’ of the law of tort ‘as a system of ethical principles of moral responsibility’ is taken up in an examination of the manner in which tort law privileges moral values within the instrumental and pragmatic space of litigation concerned with harm caused to humans by toxic environments (1997: 13).

An action in tort reveals of the failure of other forms of governance to manage risk and potentially harmful environments and entities. In this sense actions in toxic tort endorse and articulate risk anxiety, particularly in those instances where the litigation gives publicity to latent hazards that had previously been little known in the public domain (Rabin, 1993: 126). As Beck observes:

Dangers, it would seem, do not exist ‘in themselves’, independently of our perceptions. They become a political issue only when people are generally aware of them; they are social constructs which are strategically defined, covered up or dramatized in the public sphere with the help of scientific material supplied for the purpose (Beck, 1999: 22).

Through the process of subjecting particular instances of risk and harm to close scrutiny and assessment, toxic tort litigation has insinuated itself into the public
discourse about risk (Katzman, 1986). It has done so, of course, in combination with other strategies, techniques and knowledge about risk. Actions in toxic tort are in many respects a litigious expression of the risk anxiety that commentators such as Beck (1992a, 1992b) and Douglas (1992) argue is characteristic of late modernity. The modern preoccupation with the hazard presented by synthetic chemicals provides a major example of this (Katzman, 1986). Katzman points out, as do Foster, Bernstein and Huber (1993), that while the volume of synthetic chemicals in use has multiplied dramatically, human exposures to significant chemical hazards in the environment probably has not (Katzman, 1986: 92).

Nevertheless, unlike Foster et al, Katzman acknowledges that rational argument which attempts to qualify the extent of risk presented by the ubiquitous use of synthetic chemicals is to some degree pointless. On this he comments that:

There is nothing irrational about the public preoccupation with risks of dioxin rather than risks of peanut butter. ... We have chosen to worry about demons, which are imposed by the actions of others, which may lead to mass disaster, and which may have irreversible and intergenerational effects – concerns common to materially – advanced societies worldwide (Katzman, 1986: 93).

Actions in toxic tort endorse risk anxiety particularly in cases where the litigation gives publicity to latent hazards that had previously been little known in the public
domain. As discussed in Chapter Seven Beck argues that the risk anxiety of late modernism is characterised by a reflexiveness whereby ‘expert’ assessments and delineations of risk are critically appraised and often called into question (1992b). Action in toxic tort is a medium for such reflexiveness (Lee, 2000: 84). As Jasanoff observes:

Courts are often the first social institutions to give public voice and meaning to inaudible struggles between human communities and their technological creations. Technological trajectories are therefore importantly steered by events within the legal system (1995: 12).

The shift from thinking about risk in non-legal terms, to assessing its role in the litigation process, is not a simple sideways manoeuvre (O’Malley, 1996: 6). Even though toxic tort may be a litigious expression of popular risk anxiety, the traditions of common law litigation require the parties to support their case with expert testimony as to the actual, rather than simply apprehended, nature of the risk to which the plaintiff was exposed. The reputation of the courts as fair and final arbiters is founded on the techniques they employ in resolving litigation. Modern common law courts and legal scholarship have strived to align the law with science, or at least science’s project to render natural and social phenomena more readily knowable and manageable. Havemann observes that:
Because scientific and technological assumptions about risks and benefits constitute the scientific rationality used by policy makers and the public when confronted with the unknown and uncertain, science conditions definitional struggles in economics, law, politics and culture (Havemann, 2003: 28)

The application by the court of various risk technologies allows an ‘objective’ assessment of the foreseeability of the plaintiff suffering an injury as well as the causal nexus between the injury and the toxic exposure or environment. The application of risk technologies not only translates the circumstances of a plaintiff’s exposure into a justiciable form, it simultaneously allows the articulation or exposure of environmental problems, which we often call ‘risks’. It is the incorporation and reliance upon scientific forms of evidence, such as actuarial forms of risk assessment, the scientific method of the epidemiologist and the engineer, that have allowed the courts to assume a role of disinterested, yet authoritative, arbiter on risk. Nevertheless, a closer consideration of toxic tort litigation reveals that while parties must be able to point to objective, technical or scientific risk assessment which support their claim or defence, the success of a plaintiff’s or defendant’s case will also be determined by evidence of other non-scientific, and quite subjective, calculations of risk.
Heterogeneous Conceptions of Risk

As previously discussed, Steele observes that the courts necessarily engage in a quite specialized legal sense with the vocabulary and techniques of risk in their adjudication of disputes involving the appropriate limits and responsibilities of risk taking (2004: 9). She argues that within legal theory emphasis is placed on those “elements of ‘risk’ which underline the possibilities that it brings for human agency” (2004: 4). In doing so, the law, as Havemann observes, “plays a significant part in structuring, empowering, norm setting and enforcing in the prevailing relations of definition” of risk (2003: 38). Risk is conceptualized and employed by the law in a variety of ways, Pat O’Malley’s (2004) depiction of the three manifestations of risk in the legal domain, is applicable to toxic tort litigation. Following him it can be suggested that risk is the object of various forms of legal intervention, the purpose of which is to assign responsibility for the management of risk taking; risks are assigned moral value, the law either privileges or seeks to limit various forms of risk; and techniques of risk assessment are employed to determine the limits of legal liability.

Toxic tort is one form of legal intervention which functions as “a site of definitional struggle” of risk (Havemann, 2003: 38). In the following discussion it is argued that risk should not be thought of in a singular sense as if it only had one meaning or function. Instead various understandings of risk are employed expressly and implicitly in the conduct of toxic tort litigation. Valverde, Levi and Moore note that:
many practices of risk knowledge found in legal and quasi-legal sites are ‘hybrid’, meaning that persons and institutions engaging with law, whatever their background and role, often mix expert and everyday knowledges of risky situations in such a way as to create new assemblages of risk information that are neither scientific nor anti-scientific (2005: 86).

In the following discussion the four inter-related conceptions of risk which I suggest are at play in most toxic tort cases - the scientific, the insurantial, the clinical, and everyday or common-sense notions of risk – are considered. The function and manifestation of each in toxic tort litigation, as well as the close intersection between the moral value which attaches to risk and the techniques through which risk is calculated, will be underpins this discussion.

**Insurantial Risk**

The first sense in which I use risk in this discussion, and probably the most obvious, is the technical understanding of ‘risk’: it is an actuarial calculation that indicates the likelihood of an event or catastrophe happening. Programs aimed at the management of risk generally rely on these types of predictions and they are of course integral to the terms of insurance cover. Actions in tort take place against/within the operation of various state regulated and private schemes of insurance. There are a number of key effects insurance and insurability have upon the tort system in general and the conduct of litigation. Perhaps the most profound effect is identified by Fleming, who argues that without liability insurance “the tort system would have long ago
collapsed under the weight of the demands placed upon it” (Fleming, 1992: 11). The proliferation of actions that followed industrialisation and the invention of new ways of causing injury forced potential defendants to insure against liability (Derrington, 1992: 165). Stapelton observes that the increasing “public policy reliance” on a prudential response to risk has been paralleled by “a general broadening of the catchment of situations recognised by the courts as giving rise to tort entitlements” (Stapelton, 1995: 820). As liability insurance became relatively common, the historical conservatism that militated against the emergence of new forms of action was displaced. While there are still numerous instances cited in the texts of judges refusing to spread the loss on the basis of the defendant’s insurance status rather than fault, there is evidence of an expansion of the envelope of negligence accompanying the spread of liability insurance (Luntz and Hambly, 2002: 22-30). As a fairly typical example of the oft-expressed attitude of courts to the question of insurance and culpability Lord Griffiths observed in 1990 that:

There was once a time when it was considered improper to mention the possible existence of insurance cover in a law suit … those days are long past. Everyone knows that all prudent professional men carry insurance and the availability of and cost of insurance must be a relevant factor when considering which of the two parties should be required to bear the risk of loss (Smith v Eric S. Bush, 1990: 858).

Justice Derrington argues that liability insurance made it possible for courts to shift
the loss from “where it unjustly lay without imposing an injustice on a defendant and without harm to the social and economic organisation of the community, the disturbance to which had been the main impediment to full compensation” (1992: 165). However, some commentators question whether liability insurance has undermined what has long been considered the essential nexus between tort law and the notion of individual responsibility. Conaghan and Mansell are of the view, that although “individual responsibility continues to be the perspective that informs most cases, collective responsibility and loss spreading through the mechanism of liability insurance tends to be the incidental by-product” (1993: 11). Horwitz, discussing the impact of liability insurance on the development of tort law in the United States, observes that:

The individualistic world of Warton’s ‘moral causation’ and ‘free agency’ had begun to be transformed into a world of liability insurance in which the ‘legislative’ question of who should pay would ultimately undermine the self contained, individualistic categories of private law (1982: 211).

Ewald also argues that insurance directly challenges the juridical practice of assigning responsibility according to legal right (1991: 201). However, rather than insurance being the passive servant of the law, as Derrington, Horwitz, and Conaghan and Mansell seem to assume, Ewald reminds us that the law and insurance each provide a means of assigning responsibility and making compensation for loss. He says that the rationality of each may be applied to the
same object to different ends. “Insurance and law are two practices of responsibility which operate quite heterogeneous categories, regimes, economies; as such, they are mutually exclusive in their claims to totality” (Ewald, 1991: 201). The fundamental difference between the two is that the juridical focus on the occurrence of an event is singular and moral. By contrast, the insurantial approach eschews any question of moral responsibility, and instead factors the probability of such an event occurring and recurring in a predictable rule like fashion (1991: 203). Ewald identifies the function of the court as being the discovery of who was at fault and the extent of their responsibility to make reparation. He says that “[u]nder the regime of juridical responsibility … The accident is due to some individual fault, imprudence or negligence; it cannot be a rule. Moral thought uses accident as a principle of distinction … a unique affair between individual protagonists” (1991: 203). In its turn, the insurer is not so much interested in individual risk but in the extent to which the individual, as a part of a population, was at risk of certain events occurring (Ewald, 1991: 203).

The role of liability insurance in underwriting any action in negligence is an economic and social given. The increasing cost of liability insurance has been labeled a crisis in Australia and been the subject of a major inquiry and tort law
reform\(^1\). The capacity of a particular industry to insure or to absorb the loss which results from the harm will in many cases have a profound affect upon the court’s decision in any litigation to ascribe blame or responsibility, particularly in cases where there are a potentially large mass of litigants, or the outcome of the decision is likely to impact upon the provision of public services (Conaghan and Mansell, 1993: 18). It is not surprising that in an effort to maintain essential blood product supply all Australian states have now passed legislation to protect suppliers of blood products against liability for transmission of the HIV/AIDS virus, provided they meet certain procedures aimed at ensuring the safety of the blood product. The legislation was introduced because following successful litigation blood product manufacturers could no longer obtain liability insurance (Luntz and Hambly, 1995: 18).

The insurantial framework within which litigation on tort is conducted allows the insurer, facilitated by the rule of subrogation, to take control of the course of the litigation and assert and entrench its own calculation of risk. A toxic tort suit will still nevertheless be conducted as if the dispute is only between the two insured parties rather than the insurers, for the focus of the cases is very much on the responsibility of the ‘juridical subject’. Cane argues that the most significant

\(^1\) Justice Ipp was appointed to head an inquiry into the causes of the liability insurance crisis. The ‘Ipp Report’ was intended to provide a basis for uniform reform of personal injury law. The report acknowledged three primary ‘public perceptions’: a) the law of negligence as it is applied in the courts in unclear and unpredictable; b) In recent times it has become too easy for plaintiffs in personal injury cases to establish liability for negligence on the part of defendants; c) Damages awarded in personal injuries cases are frequently too high (Ipp, 2002: 25). For a detailed analysis see Vines (2004).

The State jurisdictions have passed and amended the following legislation: Civil Law (Wrongs) Act 2002 (ACT); Civil Liability Act 2002 (NSW); Personal Injuries (Liabilities & Damages) 2003 (NT); Civil Liability Act 2003 (Qld); Civil Liability Act 1936 (SA); Civil Liability Act 2002 (Tas); Wrongs Act 1958 (Vic); Civil Liability Act 2002 (WA).
characteristic of any tort action is the correlativity of the parties, “[e]very cause of action in tort has elements concerned with the conduct of interacting parties” (Cane, 1997: 13) As a consequence, the real implications of insurance coverage generally do not figure in the court room because, as Cane observes:

Even if a court purports to take loss spreading ability into account in constructing a rule of tort law, the need to justify the rule in terms of the structure of tort law as a system of principles of personal responsibility means that it will always be possible to rationalize a rule of tort law in terms of principles of personal responsibility … even if it also rationalizes the decision in terms of loss spreading (1997: 230).

Horwitz argues that the correlative character of tort litigation described by Cane is to some extent a chimera. He says of the usual tort case, “[l]iability for injury has become just another cost of doing business, which could be estimated, insured against, and ultimately included in the price paid by the public” (Horwitz, 1982: 211). If one is talking about the standard personal injury claim then Horwitz’s assessment of the current trajectory of tort litigation is accurate. Fleming observes that a defendant’s insurance may very likely undermine any deterring or punishing effect that might have followed a finding of legal liability (Fleming, 1992: 10). This argument is supported by Beck’s analysis of the effects of expert risk calculation: “the calculus of risks … permits a type of ‘technological moralization’ which no longer need employ moral and ethical imperatives directly” (Beck, 1999: 51).
However, neither Beck, in this particular discussion of expert risk calculation, nor Horwitz and Fleming, are allowing that ‘technological moralization’ might operate alongside, or simultaneously, with traditional notions of moral causation.

In the case of toxic tort litigation, the notion of ‘moral causation’ should not be discarded too readily. Such litigation is not resolved by a simple reference to an insurantial calculation of risk. Insurers may have a capacity to dominate the litigation process, but they do not litigate as if factors beyond their own actuarial calculations are irrelevant. A determination of legal liability in toxic tort cases inherently incorporates an assessment of the moral culpability of not only the defendant but also the plaintiff. In making such assessments the courts weigh up competing accounts of the type of risk to which the plaintiff was exposed. These accounts come from the parties themselves as well as from experts who provide technical assessments of the hazard or harm to which the plaintiff was exposed, and also from other lay witnesses such as work mates, whose role is to provide the court with a real appreciation of the environment in which the plaintiff was exposed to risk.

**Scientific Risk**

Expert scientific evidence relating to causation, and the risk presented by exposure to a particular toxin, toxic event, or environment, is an integral part of all toxic tort litigation. Inevitably the manner in which scientific disciplines, such as
epidemiology conceive of and articulate risk also impacts upon legal conceptions of risk. Epidemiology is the study of, “the incidence, distribution and aetiology of disease in human populations and applies the findings to alleviate health problems” (Freckelton, 2000: 133). The strength of the associations the epidemiologist might find between a possible cause and the incidence of disease, depend upon excluding alternate causes, the size of the population or cohort the epidemiologist studies, and the “degree to which one can quantify the cause and document the response” (Billauer, Moskowitz and Gallinari, 1989: 66).

Because epidemiological studies develop actuarial calculations of risk which are generally not created for legal purposes, there is often contest in litigation regarding the value or methodological reliability of epidemiological evidence (Billauer, Moskowitz and Gallinari, 1989: 66). Contest in the courtroom over the veracity of expert scientific evidence to some extent merely reflects the fact that there is no such thing as scientific objectivity or certainty. As Peel observes “[t]he empirical basis of science is both a strength and a weakness” for the potential for “various types of logical errors” is inherent in all scientific knowledge claims (2005: 35). Regardless of the inevitable speculation and dispute between parties about particular epidemiological evidence, epidemiological studies have assumed considerable importance in toxic tort litigation. They form part of the ‘evidence of possibility’ which courts use to map a global picture of the potential hazards to which a plaintiff may have been exposed, and it is from this global position that the conduct of both the parties can be judged.
Epidemiological evidence is relied upon to identify “associations between specific forms of exposure and the risk of disease in groups of individuals” (Seltsam v McGuiness, 2000: 63,572). Christie observes:

A feature of a toxic tort dispute is that a plaintiff can rarely introduce particularistic evidence which directly addresses the question of proof of causation in the individual plaintiff’s case … parties must, instead, rely on evidence which indicates an increased risk, or increased probability, of disease incidence following exposure to a specific chemical (1992b: 303).

Steele explains how the actuarial calculations of risk produced by the epidemiologist are pragmatically employed in the court room, she notes that the court is essentially employing a decision making model that “constructs a moment of decision which may be purely hypothetical” [knowledge of the risk which exposure to the toxin presented at the time of the plaintiff’s exposure] “and uses this to draw the ‘right’ conclusion” [whether the defendant should have known of the risk and or whether the exposure is likely to have caused the injury] (2004: 9). In their decision in Seltsam v McGuiness (2000), an asbestos case which has become one of the leading decisions in Australia on the role of scientific evidence in the judicial assessment of causation, Spigelman CJ and Davies AJA of the NSW Court of Appeal observe:
Evidence of the possibility, including epidemiological studies, should be regarded as circumstantial evidence which may, alone or in combination with other evidence, establish causation in a specific case. … In some cases medical science cannot determine the existence or non-existence of a causal relationship for purposes of attributing legal responsibility. Epidemiological evidence may be able to fill the gap. It is of particular potential utility in the field of what is often referred to as ‘toxic torts’, especially in cases with long latency periods (2000: ¶63,566).

Fleming acknowledges that “[a]n abiding difficulty of toxic torts is to attribute responsibility to the defendant amidst other possible causes, such as other pollutants, unrelated diseases or carcinogens like smoking etc” (1997: 71). Tort principles of the nineteenth century were premised on the assumption that there is usually a single line of causation linking the defendant’s negligence and the plaintiff’s injury. However, science and medicine has developed to the point where an injury is likely to be attributed to a range of possible causes. The medical model that is employed to determine the actual cause of the injuries is not based on direct causality, it is based on a “multi-factor approach” which understands “the problem of health in a broader context” whereby disease can be attributed to exposure to a variety of toxins as well as the lifestyle and patterns of consumption of plaintiff themselves (Lanthier and Olivier, 1999: 75). Lanthier and Olivier observe that through the application of such an approach, ill health, disease or injury suffered by the individual are inherently referable to the health of the broader environment:
while the multifactor approach does not rely on the concept of ecosystem which underlies the environmentalist discourse, it does make it possible to envisage the problem of health in a broader context, and to make the environment an important concern for individuals … By linking health to issues such as the quality of air, water and urban space, medicine has helped to make the environment and important concern (Lanthier and Olivier, 1999: 75-6).

The often fierce contestation of causation in toxic tort litigation renders visible a risk which may often have a wider ambit and environmental consequence for the court is required to hear a range of expert opinion and technical evidence. Pugh and Day, writing of their experience as practitioners in toxic tort litigation, note:

The lawyer is called upon to work with a series of scientific disciplines outside his traditional range. So, for example, a typical toxic tort action for airborne pollution would be likely to bring together disciplines such as process engineers, soil analysts, meteorologists, experts on plume dispersion modelling and so forth (1991: 1549).

Jeffery observes that toxic tort type litigation is highly specialised because of “the very nature of the environmental issues which have emerged from the bowels of a complex industrial society” (1988: 271).
While Jeffery, and Pugh and Day acknowledge the fundamental role expert opinion has come to play in toxic tort litigation, it is important to note that scientific expertise is not readily assimilated into toxic tort litigation. Jasonoff has observed that, “[i]t is easy to reduce the law’s obligation in relation to science to a simple two-step prescription: courts and other legal institutions should first seek out the findings of mainstream science and then incorporate them into their adjudicatory decisions” (1995: xiv). Against this she argues that while the reliance on ‘objective’ scientific evidence may lend authority to the court’s determination on legal liability, neither the court as the gatekeeper of the scientific expertise to be allowed into evidence, nor the scientist recognised by the court as expert, are disinterested. Jasanoff further suggests that while the scientific evidence at the centre of toxic tort litigation may be produced through recognised techniques such as epidemiology or toxicology, the evidence may not yet represent settled scientific knowledge (1995: 210). As Justice Stein observes, “the science of epidemiology involves questions of judgment, experience and interpretation to be applied to gathered statistics, it is not surprising that criticism may be made about individual studies, whether they be case studies or cohorts” (Seltsam v McGuiness, 2000: ¶63,596). As Jasanoff goes on to observe, science in the courtroom is not the science of the research laboratory. It is employed in an adversarial context and hence the testimony of expert scientific witnesses is ‘strategically framed’ and the court considers the evidence in that context (Jasanoff, 1995: 48). Thus the courts freely acknowledge:
The pragmatic assessment of probable cause as a basis for tortious liability cannot be wholly constrained by the scientific and philosophical purity of epidemiology, which essentially depends upon a comparison of the data obtained in controlled circumstances (*E.M. Baldwin & Son Pty Ltd v Plane & Anor; Jsekarb Pty Ltd v Plane & Anor, 1999:* ¶65,640 per Fitzgerald JA).

Yet, in an effort to have their case regarding causation prevail, parties often challenge the veracity of the other party’s expert testimony by resort to claims about the want of ‘scientific purity’ in the relevant research. The case of *Seltsam v McGuiness* for example, was “an epidemiological contest, essentially between Dr McCredie and Professor McLaughlin” at both the trial and on appeal (2000: ¶63,593 per Stein J). The Defendant argued that a review of the epidemiology relating to the exposure to asbestos and renal cancer undercut Dr McCredie’s evidence for the plaintiff. The majority of the Appeal Court eventually agreed with that contention saying:

The strength of association between asbestos exposure and renal cell carcinoma, and other aspects of the quality of the epidemiological research, particularly inconsistencies among the various studies, were relevant considerations which his Honour was obliged to take into account (2000: ¶¶63,570 per Speigelman CJ).

In dissent, Stein J considered that there was “a host of reasons why the trial judge
was entitled to prefer Dr McCredie and find that, on the balance of probabilities, the link between asbestos exposure and RCC [renal cell carcinoma] was established” (2000: ¶63,594 per Stein J). While disagreeing on the question of whether the epidemiological evidence was strong enough to “justify an inference of causation on the balance of probabilities” the court agreed on the role that epidemiological evidence potentially played in the litigation. It was one of the factors that are combined as Speigelman observes like “strands in the cable” with other non-scientific evidence and from which causation might be inferred by the court as a matter of ‘commonsense’. Seltsam’s case, despite Chief Justice Spigelman’s thorough examination of the utility of epidemiological evidence, did not, however, determine the point at which epidemiological or other forms of scientific evidence should be considered by the court to be compelling (Freckelton, 2000: 140).

Challenges to the methodological purity of expert testimony are framed by the rules of civil procedure and evidence which determine the court’s discretionary power to accept or exclude expert evidence. On this Jasanoff observes that exercise of the court’s discretion is inevitably shaped by the degree to which “judges are swayed by their perceptions of what ‘science’ is and who is a ‘scientist’ when they certify an expert’s credibility” (Jasanoff, 1995: 59). Further:

Science is constructed in the courtroom in accordance with tightly circumscribed rhetorical and procedural rules, under unavoidable economic
and sociological constraints, and to serve widely divergent normative agendas (Jasonoff, 1995: 67).

Edmund and Mercer’s analysis of the ongoing debate about the proper interpretation of the United States Supreme Court’s ruling on the standards that should apply in determining the admissibility of scientific expert evidence in *Daubert v Merrell Dow Pharmaceuticals, Inc.* (1993) reveals the extent to which the question of what counts as science has become politicized in the legal context. It also demonstrates how assessments of risk such as those produced by epidemiologists are not neutral elements in the legal assessment of risk. *Daubert* is exemplary of how the legal domain constitutes knowledge from other domains “into its own framework by transmuting such alien knowledges into legal formats and frameworks” (Valverde, 2003: 6).

The rule in *Daubert* departs from the *Frye* test, which had until that time [1993] commonly prevailed as the basis for interpreting Rule 702 of the *Federal Rules of Evidence*. In applying *Frye*, a court considered whether there was general acceptance of a theory or technique in a relevant field. However, the notion of ‘general acceptance’ had often been qualified and interpreted quite differently in courts across the federal jurisdiction (Edmund and Mercer, 2004: 233). The Supreme Court took the opportunity in *Daubert* to develop criteria which would allow courts

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2 The *Daubert* case was one of a many actions in the US state and federal courts against the manufacturer of the anti-nausea drug Bendectin. The drug had been prescribed for many pregnant women to alleviate morning sickness, but was later associated with birth defects in the babies of many those women who had taken the drug.
to secure “relevant and reliable evidence” and overcome the inconsistent jurisprudence that had developed in relation to the admissibility of expert evidence (Edmund and Mercer, 2004: 234). The Court was persuaded by a number of influential amicus briefs from corporate-sponsored think tanks\(^3\) to privilege scientific criteria, such as the ‘falsifiability’ of scientific criteria relied on in expert testimony, when determining the validity and probative value or scientific evidence (Edmund and Mercer, 2004: 244). The \textit{Daubert} decision listed four criteria trial judges should take into account in assessing claimed expertise\(^4\). The court indicated that these criteria were intended as a guide only, and that the inquiry should be flexible. However, as is often the case when a superior court attempts to set criteria for future guidance, the \textit{Daubert} guide soon lost its intended flexibility and qualification, and through its very application was transformed into the checklist for the application of a fixed rule. Edmund and Mercer note that in subsequent decisions, \textit{Daubert} has become the basis for imposing a much more stringent admissibility threshold (2004: 244, 250). Capriotti observes that, since the

\(^3\) Including the Atlantic Legal Foundation, which aims to redress the “bias against big business which manifests itself in favour of narrow ‘consumer’ or ‘environmental concerns’” (quoted in Edmund and Mercer, 2004: 244). The Manhattan Institute represents the interests of “peak trade organizations, insurers, major manufacturing, and pharmaceutical corporations” (Edmund and Mercer, 2004: 244).

\(^4\) First, citing Popper, the Court considered the testing and falsifiability of the relevant scientific theory or technique to be a ‘key question’ as indicative of proper scientific practice. Edmunds and Mercer argue, that when Popper’s falsification standard (as it is understood by the Court) is combined with the other \textit{Daubert} criteria, it produces a standard for admissibility, which is “inconsistent with some of Popper’s aspirations for falsification”, and which, in a practical sense, exceeds what would be demanded by a testing/falsification standard alone (2004: 236). Second, whether the explication of the theory had been subject to peer review and publication was also ‘pertinent’, although the Court qualified these criteria by reference to Jasanoff (1991), in which she argues that peer review and publication do not guarantee reliability. Third, the Court held that some cases may require consideration of the technique’s known or potential error rate. Fourth and finally, the decision did not abandon \textit{Frye} completely; the general acceptance of the theory or technique remained a relevant factor to be taken into account (Edmund and Mercer, 2004: 234).
acceptance of the Daubert criteria, “without substantial evidence, an expert’s opinion is nothing more than that – a mere opinion, which will not be accepted by a court without a more reliable foundation” (2003: 5). As a consequence some argue the rule sets “unreasonable standards of admissibility [which] serve only to reduce plaintiff access to litigation” (Kroll-Smith and Westervelt, 2004: 183).

The debate regarding the proper interpretation of Daubert is about more than simply what type of science should be recognized in the court room. It concerns “the social and moral viability of particular technological choices” (Jasanoff, 1995: 65-6). Edmunds and Mercer argue that the legacy of Daubert leads to:

Onerous criteria for ‘reliable science’ by drawing on philosophical authorities, like Popper, without considering limitations or implications to their work; and … Daubert’s call for judges to become gatekeepers has, in subsequent appeals to the Supreme Court, been transformed from an ostensibly pragmatic approach, sensitive to justice and the need to resolve disputes, into a more idealistic orientation with greater emphasis on the determination of scientific truth (2004: 235, original emphasis).5

Edmunds and Mercer cite the fate of Newman v Motorola Inc (2002) in support of this argument, that case was one of the first relating to the hazards of cell phone use,

5 Edmunds and Mercer argue, that when Popper’s falsification standard (as it is understood by the Court) is combined with the other Daubert criteria, it produces a standard for admissibility, which is “inconsistent with some of Popper’s aspirations for falsification”, and which, in a practical sense, exceeds what would be demanded by a testing/falsification standard alone (2004: 236).
its failure has been significant for a large cluster of potential toxic tort claims relating to the harm caused by cell phones (2004: 239-40; Capriotti, 2002). Justice Blake, in a decision that was affirmed on appeal⁶, rejected the evidence of the plaintiff’s expert epidemiological and oncological witness, Professor Lennart Hardell. She did so through what Edmund and Mercer argue was a “strategic manipulation of the Daubert criteria” (2004: 240). Hardell was not allowed to testify, despite the fact that he held appropriate qualifications, because his opinions in the judge’s view did not “otherwise satisfy the Daubert standards” (Newman, 2002: 7, cited in Edmunds and Mercer, 2004: 240). Hardell’s position undoubtedly dissented from mainstream scientific opinion on the probability of radiofrequency radiation emitted by cell phones causing malignant brain tumors, but he was no fringe kook. For, as Capriotti observes, the scientific evidence relating to biological effects of cell phone emissions:

is almost as predictable as it is controversial: researchers say cellular telephones “can no longer be considered risk-free because of the radiation transmitted through the antenna.” Nonetheless, the phenomenon remains unaccepted due to a lack of solid, conclusive proof. Notwithstanding the uncertainty of these findings, enough evidence exists to justify further testing and to take precautions in using cellular telephones (2002: 495-96).

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⁶ Newman v Motorola Inc. No. 02-2424 Court of Appeals (4th Cir 2003).
While Hardell’s research and opinion was not mainstream, neither was the relevant ‘real world’ science on the biological effects of electromagnetic radiation and cell phone use settled. Hardell’s testimony was rejected on the basis that the judge disapproved of his methodological approach, and because she considered peer reviews of his key findings indicated his evidence was scientifically questionable (Edmunds and Mercer, 2004: 240-41). In considering such matters Christie observes that “standards and criteria of science” should underwrite scientific evidence, but that does not mean that in scientific evidence in the court room can be expected to deliver “exactness and certainty” (1992b: 314). But that seems to be what Justice Blake’s application of the Daubert criteria was almost requiring. Edmunds and Mercer argue that her reasoning and approach to the admissibility of Hardell’s evidence demonstrate how “ideal images of the scientific method can be used in legal settings to help deconstruct or marginalize particular forms of expertise”, and in so doing, “restrict the entry of (novel) scientific claims” (2004: 241-42).

Supporters of the outcome in Daubert such as Foster, Bernstein and Huber (1993) laud it as being an appropriate gatekeeper of emergent toxic tort claims. They argue it will protect American enterprise and allow the public benefits from the development of new technologies (Edmunds and Mercer, 2004: 243, 251). Against them, Jasonoff argues that Huber’s contention that by “overcompensating the victims of new technologies” toxic tort litigation has increased “the total probability of harm to humans and the environment”, fails to understand the “social and cultural
dimensions of risk”. Returning to the example of the hazards of cell phone use, Capriotti’s observation is also relevant here:

It is not surprising that serious controversy and fear about the possible health risks of cellular telephone use are escalating. This is the first time humans are holding a high-powered transmitter directly against their heads. The National Brain Tumor Foundation has reported that as the number of people who use cell phones has increased, so has the incidence of brain tumors. Electromagnetic radiation, which is emitted from cellular telephones, is the alleged cause of the fear and controversy surrounding health risks and cell phone use (2002: 491).

Concern about the potential for harm is not determined simply on the basis of “actual or predicted numerical” assessment of risk (Jasanoff, 1995: 13). Nevertheless, “Daubert-inspired quests to establish scientific truth … may assist in discouraging ongoing legal scrutiny of intransigent scientific controversies involving uncertain risks” (Edmunds and Mercer, 2004: 243).

**Clinical Risk Assessment**

The second approach to ‘risk’ to be considered is the clinical appreciation of risk, an understanding of risk that is taken from health governance literature (see Weir, 1996; O’Malley, 1996). Public health programs use clinical risk techniques such as
diagnoses and therapeutics as part of the process of managing public health. Clinical risk is founded on expert assessments of risk faced by certain groups such as smokers, pregnant women or drug users. Clinical risk programmes, informed by risk expertise, develop programs which aim to reduce the exposure of these groups, rather than whole populations, to risk. Toxic tort litigation is not therapeutic, beyond the fact that successful litigation, and/or the threat of further litigation, forces some defendants who are found liable to reform their practices so that the hazard of exposure is limited or eradicated. The clinical approach to thinking about risk is taken up in this argument because its focus is on the relationship between expert assessments of risk and the individual, as an individual (not simply as a member of a risk prone population). The main consideration of much risk commentary, by contrast, is on how risk is produced by collective anxiety and politics, or a phenomenon revealed by certain forms of scientific or actuarial calculations (for a survey of this commentary see Lupton, 1999; O’Malley, 2000). When legal commentators consider the function of risk assessment in litigation, their focus also tends to be on actuarial or other scientific calculations of risk. How the individual actually copes with, engages with, or is affected by risk, is of only peripheral interest at best to these scientific or legal-technical conceptions of risk.

It is argued here that the focus of clinical risk techniques on the individual’s exposure to risk is a useful way of thinking about how toxic tort litigation constructs a certain type of legal subject. Despite the broader risk discourse within which any toxic tort litigation takes place, the individual litigating parties remain the primary
focus of the court (Cane, 1997: 13). The plaintiff must be able to show that the
damage she/he suffers was on the balance of probabilities caused by the defendant’s
conduct (*Tubemakers of Australia v Fernandez*, 1976). It is the court’s appreciation
of the parties’ personal and quite specific experience and exposure to risk, and their
behaviour in the face of such exposure, which in large part determines the outcomes
of the proceedings. Jasanoff observes:

Courts seem inclined in each case to favour a holistic (or medical) to a
reductionist, or toxicological model of illness. The holistic view focuses on
the suffering individual and asks whether, given the totality of circumstances,
this person could have been affected in the stated way by the stated exposure
… this approach presumes that issues of general or specific causation must
be addressed together, within the context of the plaintiff’s lived life (1995:
125, emphasis added).

However, when the court places greater emphasis on scientific evidence of the
causal nexus, the plaintiff’s lived experience of the hazard assumes less importance
in the proceedings. The trajectory of the *Daubert* ruling for instance, has been to
shift the court’s attention away from a holistic focus in which the “scientific
evidence supports a claim framed in lay terms”, towards what Karen Morrow has
labelled a ‘harder’ approach to causation in which the evidence of the plaintiff is
marginalised in favour of scientific evidence (Morrow, 2000: n.32 145, 144-49). In
the nuisance case of *Graham and Graham v. Re-Chem* (1996) Morrow notes the
court was not satisfied that the plaintiffs’ evidence established a causal nexus between the damage suffered by the plaintiffs and the emissions from the defendant’s incinerator. Their evidence was judged “very confused and confusing, contradictory and riddled with inconsistencies”. The fact that there had been findings by official inquiries regarding the hazards of the defendant’s incinerator was also considered to be of little consequence because the reports documenting that risk were in general terms and did not evidence that activities of the defendant specifically caused the plaintiff’s damage. In essence, the plaintiff’s case failed in the court’s view because the plaintiffs had not provided, “detailed clinical, pathological and histological evidence of ... toxic insult”; their case was not buttressed by sufficiently persuasive and detailed scientific evidence (cited in Morrow, 2000: 148).

Of course it is possible to provide alternative examples of cases adopting a more holistic approach to causation as Morrow has done (see discussion of *Hanrahan v. Merck, Sharp & Dohme (Ireland) Ltd* in Chapter Seven above). However, this discussion is not attempting to establish that a certain approach to determining legal liability prevails over others in toxic tort litigation, nor assert that there is some sort of equivalence in the operation or significance of the four different conceptions of risk identified in this chapter. Rather, the intention is to explicitly recognise the heterogeneous notions of risk which impact on legal delineations of risk and environmental hazard. In this way knowledge is produced or constructed by the
combined, and sometimes conflicting, forms of evidence used to establish the ‘truth’ of the matter. As Valverde observes:

The parties to a legal case can be said to constitute knowledge in the very process of ‘using’ it, while courts and tribunals can be usefully regarded as further constituting knowledge in the process of evaluating evidence and drawing conclusions from it (2003: 5).

The knowledges that are so ‘constituted’ by the law do not solely rely on expert evidence. Indeed, a closer consideration of toxic tort litigation suggests that while parties must be able to point to objective, technical or scientific conceptions of risk which support their claim or defence, the success of a plaintiff’s or defendant’s case will also be determined by evidence of other non-scientific, and quite subjective, calculations of risk.

**Risk and Common Sense**

The third way in which the figure of ‘risk’ is conceptualized and employed in toxic tort litigation is through its common, everyday meaning. That is, through the meaning risks are attributed according to “the everyday unsystematic social knowledge necessary to individuals living in society” (Cotterrell, 1986: 23). In its common, everyday sense, risk is a term used to describe danger or hazard (Ewald, 1991). Risks of this kind are not statistical calculations, they are social/cultural constructs. Such ideas of risk often have some genesis in a scientific prediction of
risk, but they have developed to encompass an array of popular knowledge, beliefs and practices that are not limited by the confines of scientific discourse. Lee observes that: “the public experience of risk is not one of unthinking acceptance of a position expounded by experts, nor is it a simple choice between expert positions” (2001: 86). A subjective appreciation of the plaintiff’s dilemma and the defendant’s conduct is a vital part of the evidence upon which the court makes a determination of legal liability. It is introduced through lay witness accounts of the risk and danger to which the plaintiff was exposed. Indeed the commonsense test for causation in toxic tort cases (discussed above) explicitly acknowledges this dynamic. The Australian courts have said that causation is “a question of fact resolved as matter of commonsense and experience, the conclusion is often reached intuitively” (Chappel v Hart, 1998: 562 per Hayne J).

This dynamic is readily apparent in Seaman J’s decision in Napolitano v CSR Ltd & Anor (1994). In that case the judge, after an expedited hearing, gave oral reasons for his decision, which were later published as a written decision. Seaman J departed from the usual course of presenting a closely considered decision, because the life expectancy of the plaintiff, who had mesothelioma, was so short. It was imperative, if the plaintiff was to receive an award of damages for pain and suffering, that the judgment be delivered before the plaintiff died. Mr Napolitano had been employed for two years by the defendant in its blue asbestos mine in Wittenoom. The defendants admitted liability for the plaintiff’s mesothelioma. However, they contested whether the psychiatric illness Mr Napolitano also suffered could be
attributed to the plaintiff’s fear of contracting mesothelioma caused by his exposure to asbestos at the defendant’s mine. The judge regarded the “question of liability for psychiatric injury to be a matter of major complexity” (Napolitano v CSR Ltd & Anor, 1994: 6). Nevertheless, the judgement is characterised by a pragmatic and rather candid take on the evidence, rather than the usual careful rationalisation and artifice that attaches to judicial decision making. Seaman J’s decision has been criticised for its “lack of analysis of principle or authority” (Mullany, 1997: 137). However, for the purposes of this discussion it is all the more instructive for that omission; it means the clinical gaze of the Court is all the more apparent.

It was necessary for Justice Seaman to establish on the balance of probabilities that the plaintiff’s ‘illness of mind’ was caused by the defendants’ conduct. That causal nexus was to be “determined by applying common-sense to the facts” of the particular case (Napolitano v CSR Ltd & Anor, 1994: 20). Seaman J cursorily distinguished Mr Napolitano’s situation from other nervous shock cases and refocused on the particulars of the plaintiff’s case, observing that:

It seems to me the controlling features of liability for psychiatric illness cannot be determined in the abstract and this case cannot turn on statements of policy apt to very different factual situations (Napolitano v CSR Ltd & Anor, 1994: 22).
Justice Seaman assessed Mr Napolitano’s behaviour and disability in light of expert testimony on the likelihood of developing a psychiatric illness because of a fear or anxiety of contracting mesothelioma. He considered opposing expert testimony regarding whether Mr Napolitano’s condition was caused by defendants or was the product of the plaintiff’s predisposition to a depressive disorder. Unusually, although the scientists were in disagreement they both allowed that the other’s diagnosis was tenable (Napolitano v CSR Ltd & Anor, 1994: 17). The scientific argument was weighed up in light of the view the judge had formed of Mr Napolitano, and the evidence he had heard regarding the conditions in which he worked, and the circumstances of his lived life since that exposure, which included witnessing the death of many former work mates in particular his best friend Mr Cinquina, who like him had been a non-smoker and non-drinker. The judge was clearly impressed by Mr Napolitano’s love of family, hard work, conscientiousness and general enjoyment of the simple physical pleasure of life:

On the evidence he was a happy-go-lucky and very healthy man described by his wife as everything a woman could wish for in a husband … He loved the open air, his garden, his home and his family life. He never smoked, drank very little and his hobbies were fishing, running on the beach and swimming in all seasons of the year (Napolitano v CSR Ltd & Anor, 1994: 7).

The Judge noted that it was a marker of Mr Napolitano’s genuine fear of death by mesothelioma that he gave up his foreman’s job at Brady’s, where he was much
respected, because he was scared of the dust his plastering work exposed him to every day (*Napolitano v CSR Ltd & Anor*, 1994: 9). Justice Seaman was also clearly moved by the fact that Mr Napolitano witnessed the rapid deterioration of Mr Cinquina’s health and his subsequent untimely death. This happened very soon after Mr Napolitano had been told by Dr Musk that asbestos bodies had been found in his own lungs and that he had inflammation in his lungs, a diagnosis which Mr Napolitano said ‘really killed him’.

This is the Judge’s summation of the trajectory of Mr Napolitano’s illness, (he has quoted from the transcript of evidence given by the plaintiff’s treating psychiatrist):

He (the psychiatrist) could not point to one trigger but to the whole process of them and to gradually increasing anxiety. I said to him:

“Again a Judge has to try to form some picture simple enough for himself of what a person with specialist knowledge like you are saying, but does it come like this: you start in the sixties, as you have said, with an awareness that working in Wittenoom may have serious consequences, what ever they may be? ---Yes.

There comes an increased knowledge of what the consequences are, there come particular confrontations about death [his friends from Wittenoom dying of mesothelioma], there comes a time progressively where the man begins to feel in himself certain manifestations [breathlessness and inflammation in lungs] and it becomes a process
of attrition … which you say started with the awareness of serious consequences of working in Wittenoom, you would say it comes to a time where there is a full-blown depressive illness probably with chemical overtones?”

The answer was “Yes” (Napolitano v CSR Ltd & Anor, 1994: 17).

Justice Seaman’s conclusion was that Mr Napolitano had suffered “a very long period of misery and anxiety and fear” (Napolitano v CSR Ltd & Anor, 1994: 25), and that

depressive illness was induced by the perception of the plaintiff of the distressing phenomena of asbestos-induced illness in his fellow Wittenoom workers who were his friends and in particular Mr Cinquina (Napolitano v CSR Ltd & Anor, 1994: 20-1).

Anxiety or fear of contracting a disease is not, on its own, a basis for any form of compensation greater than payment for medical monitoring of the plaintiff’s health (Mullany, 1997). Justice Seaman did not break from that legal requirement. Mr Napolitano’s condition was a recognisable mental illness, but analysis of the judgement suggests that it was the particulars of Mr Napolitano’s experience and fear, made palpable by the psychiatric diagnosis, and ultimately vindicated by the fact that Mr Napolitano was to die of the very disease he feared, that primarily motivated the Judge’s decision. Mullany suggests that “[o]ne gleans the impression
from his judgement that Seaman J simply formed the opinion that it was just in the particular circumstances to compensate the plaintiff” (1997: 137).

This notion of what is ‘just’ leads to the next point of this discussion. This is that legal liability in toxic tort actions is very much determined in the context of a moral evaluation of the parties conduct and of their attitude and response to risk. Together with an expectation that the individual will monitor him or her self and be risk averse, risk in its commonly understood sense has become inextricably linked with blame (Douglas, 1992). Whereas the technical calculations of epidemiological risk are treated as objective, rather than moral assessments by the courts, everyday notions of risk are a basis for ascribing moral culpability. In the courtroom, toxic tort litigation, despite its consideration of detailed scientific evidence, appears to turn as much upon moral assessment of the parties’ conduct, as on scientific argument and testimony or points of law. Indeed, Rabin describes tobacco litigation in the United States as “a last vestige of a vision of nineteenth century tort law as an interpersonal morality play” (1993: 122). While we might expect the legal idiom to be predominantly dispassionate, toxic tort litigation is resolved within a discourse that is influenced by collective emotion as much as instrumental calculation.

**Risk, Blame, Responsibility and Liability**

As Ewald (1991) observes, how we construct and understand risks determines our possible response to those perceived risks. For example, if risks are understood as probabilities they are seemingly amenable to control in a number of forms, (although
that control may not be so much real as contrived); it may be control exercised at a
distance through insurance, or it might be control exercised at level of the individual,
as in a clinical setting where the clinician situates the individual and her lifestyle or
patterns of consumption against a background of known risk (Weir, 1996).
Knowledge of a risk also produces a moral imperative to actively take up risk averse
behaviour, such as giving up smoking, or employing work-safe practices. As
indicated, a materially founded apprehension of risk, such as past heavy exposure to
asbestos causing mesothelioma sometime in the future, is apt to produce anxiety,
especially if there is no technical capacity to control the risk (Beck, 1992b; Douglas,
1992; Lee, 2000). Expert psychiatric testimony in the case of Maddalena v CSR Ltd
& Anor (2004) encapsulates the anxiety and fear which accompanies a risk made
real:

In my opinion Mr Maddalena lives in fear of death from mesothelioma as a
result of his undoubted heavy exposure to asbestos some 25 or so years ago.
He has watched his brother and numerous colleagues die sever, painful and
lingering deaths. He suffers from chronic fear. …He cannot be described as
cancerphobic because the term phobic implies no real reason for such a
belief. I believe that he has compelling reality and emotional reasons for his
belief. … There has been further accretion of anxiety and fear since the
objective demonstration of left lung pathology in the early 1990s
(Maddalena v CSR Ltd & Anor, 2004: ¶34).
The knowability of risk, underpinned by the scientific capacity to identify hazardous activities and substances, imposes responsibility not only on hazard creators but also upon potential victims of such hazards. Risk, in modern society, has come to replace the old fashioned (and in modern secular society now largely discredited) notion of sin, as a term that “runs across the gamut of social life to moralize and politicise dangers” (Lupton, 1993: 428). As Lupton, taking up Douglas’s thesis about the nexus between risk and blame, observes:

The modern concept of risk, like that of taboo, has a ‘forensic’ property, for it works backwards in explaining ill-fortune, as well as forwards in predicting future retribution. Thus the experience of a heart attack, a positive HIV test result, or the discovery of a cancerous lesion are evidence that the ill person has failed to comply with directives to reduce health risks and therefore is to be blamed for his or her predicament (1993: 430).

As noted in Chapter Seven, unlike other routine or high volume tort litigation, toxic tort cases are more likely to go to trial. Such cases are also likely to involve difficult issues of causation that require lengthy inquiry into the circumstances of the toxic exposure. As a result defendants’ insurers are likely to be less inclined to settle (Colbran et al, 2002: 762-3). External, judicial pronouncements have equivalent worth for plaintiffs who want the litigation to acknowledge that a wrong was done. For the toxic tort plaintiff, who has been the victim of exposure to a lethal toxic substance in circumstances where others had responsibility for their well being, the
opportunity for a ‘day in court’ is an opportunity for the moral rightness of their claim to be recognized. It is not being argued here that a court deciding a toxic tort suit necessarily frames its decision solely in terms of moral culpability of the parties. However, blame and responsibility are central to the discourse within which the case is argued and considered.

The allocation of blame and the finding of liability are influenced by subjective assessments of the moral character and reputation of the litigants. As Beck observes, the fact that expert calculations of risk tend to produce an amoralisation of the dispute does not necessarily preclude *non-expert* understandings of risk becoming the basis for ascribing blame (Beck, 1999: 6). An attractive or successful plaintiff from the lawyer’s point of view will be one whose sense of grievance and account of the injury meets certain requirements and standards of conduct. They must be plaintiffs who present with an acceptable disposition, which reflects an appropriate attitude to the work or life style that ultimately resulted in their toxic exposure, such as the flight attendants in *Broin* (Rabin, 2001: 342). Credit is not only at issue in criminal cases; lawyers representing plaintiffs harmed by exposure to toxic substances or hazardous activities use the tactic of the public trial for plaintiffs who have acted responsibly and as far as possible protected themselves against harm. A test case plaintiff is not an individual who has voluntarily courted risk. As Scott and Williams observe, “[m]anaging their own relationship to risk has become an important means by which individuals can express their ethical selves and fulfil their responsibilities and obligations as ‘good citizens’” (cited in Petersen and Lupton,
The good citizen/plaintiff is one who acts rationally to maintain good health. Cane argues that tort is predicated on the correlativity of the plaintiff and defendant’s relationship and conduct:

Tort law is concerned with people’s responsibility for their acts and omissions. And because it deals with interactions between people, it contains principles relevant not only to the conduct of injurers but also to the conduct of victims. For example, in the tort of negligence, not only is there a principle that people should take reasonable care not to injure others, but there is also a principle that people should take reasonable care for their own safety. Every cause of action in tort has elements concerned with the conduct of interacting parties (Cane, 1997: 13).

An interesting example of the moral dynamic of an assessment of risk and liability is evident in the case of *Christopher Haar v Uneedus Scaffolding Pty Ltd* (1989), in which the responsibility of both the employer defendant and the employee plaintiff were assessed in the context of the broader cultural values about risk taking. Mr Haar had been exposed to asbestos in the late 1970s in his employment as a rigger. He worked alongside other workers employed by a different contractor to remove asbestos from the building around which Harr was erecting scaffolds. Haar’s defendant employer did not provide any special clothing to protect Haar against asbestos, or require him to wear any, even though the asbestos removal workers wore special masks and suits. The defendant was in breach of a range of health and
safety regulations for the hazards of asbestos were deemed to be well known to employers of the defendant’s size by that time. The principal legal issue was whether the exposure to asbestos was the sole cause of the plaintiff’s cancer of the oesophagus. The defendant argued that Haar’s smoking was implicated in the development of his cancer and that because Harr was aware at the time of the hazards of smoking he was contributorily negligent. The jury reduced the damages award by 20 percent for contributory negligence. However, the presiding judge declined to accept the jury’s finding. Justice O’Bryan held that even though at the time of Haar’s exposure health warnings were printed on cigarette and tobacco packaging and, even though Harr had not denied that he had been aware that there was some scientific evidence that smoking could cause cancer, he had not acted negligently. The law of contributory negligence required the court to consider Haar’s conduct in light of “the circumstances and conditions in which he had to do his work” (Podreresek v Australian Iron and Steel Pty Ltd, 1985). Those conditions, it was held, included the fact that most manual workers smoked, such that site agreements allowed workers designated ‘smoko’ breaks. Despite the increased public awareness of the hazards of tobacco consumption, smoking was a routine, normal accepted practice of workers in Haar’s circumstance at the time, it did not make him culpable for his injury.

Against this, plaintiffs claiming compensation for smoking related injuries have generally not had success, precisely because their conduct has been judged in the
context of the broader cultural values about risk taking. Petersen and Lupton observe:

This dimension of the obligations of the healthy citizen is highly apparent in discourses about cigarette smoking, which currently emphasises the effects that cigarette smoke has on other people, especially children. … Responsibility for others’ health status is also a central argument for preventative strategies relating to contagious diseases such as HIV infection and hepatitis (Petersen and Lupton, 1996: 69).

In his account of the fate of tobacco litigation in the United States Rabin (1993) has observed that there are two different types of plaintiffs in toxic tort litigation, those who are characterised as victims and those who are seen as irresponsible. The difference between the relative successes of the asbestos and tobacco toxic tort litigation lays not in the scientific evidence as there is a wealth of evidence available regarding the toxic nature of exposure to both asbestos and tobacco. The relative success of each type of tort is founded in the circumstances in which each type of toxic exposure typically occurs. It is not only the court’s view of what is required by the law to establish causation which finds a plaintiff with asbestos related lung cancer in a better position than a plaintiff with smoking induced lung cancer. It is also the focus of the litigation on ‘particulars’ – that is, on the individual’s attitude to risk and the care and responsibility the individual has taken for him or herself.
This focus on the credibility of the plaintiff operates in other toxic tort litigation as well. In their study of several actions relating to the toxic contamination of land and urban housing, Toffolon-Weis and Roberts observe that many of the plaintiffs in those cases were poor and with limited access to quality health care. As a result they had only a limited appreciation of the factors that posed a risk to health. They outline how the credibility of these plaintiffs’ claims was readily undermined because the plaintiffs:

may have been exposed to dangerous work and lifestyle factors that are often presented by the defense as alternative causative factors. Government and corporate officials do not take the symptoms of these people seriously. They attribute the poor health of these communities to unhealthy lifestyles (eg. eating fatty foods, smoking, drinking alcohol and taking drugs) …. Further, middle class jurors’ own prejudices may affect their judgments when viewing poorer individuals with different life experiences (2004: 261).

Morrow’s analysis of the nuisance cases in the Ireland and England show similar approaches. Farmers who complained that their health and that of their livestock was effected by toxic emissions had to counter claims that their illness was attributable not to the defendant, but to their own unhealthy lifestyle and poor farming practices (2000: 149).
Prior to the public disclosure of the ‘cigarette papers’, which revealed that the
tobacco industry has long held knowledge, information and research regarding the
dangers to health of smoking and the addictive properties of tobacco; the scientific
evidence alone proved not to be enough to counter the court’s attitude that smoking
is almost entirely a habit of choice (Rabin, 1993: 122-4). Indeed, if anything, the
widespread public knowledge of the hazards of smoking places an added
responsibility on the plaintiff (Capriotti, 2002: 7). The smoker plaintiff has been
expected to exercise responsible choice, to make a rational calculation about risk.
Deep pocket tobacco company defendants have relied with some success on
arguments that plaintiffs’ have not acted responsibly in failing to heed health
warnings printed on tobacco product packaging and advertising (Capriotti, 2002: 7).
Rabin argues that the plaintiff faces considerable difficulty in managing the expert
evidence relating to the health effects of smoking or the addictive nature of smoking,
despite the fact that in a strictly evidential sense it supports the plaintiff’s case.

[T]he addiction expert’s translation of scientific data on reinforcement,
withdrawal, reactive effects, and other esoteric phenomena into terms that
make sense to the jury remains a rather abstract undertaking. The expert is in
no position to say anything about the individual smoker … By contrast, the

7 Whistle blowers have revealed that not only has the tobacco industry held this information, it also
adopted strategies designed to keep that knowledge from the public domain, that it has targeted
teenagers through advertising to encourage them to smoke and become addicted to tobacco at an early
age, and also deliberately sought to deceive tobacco users as to the health hazards of smoking
(Sugarman, 2002: 97-99).
defense on the addiction issue is grounded in particulars: the claimant could have quit, knew the risks, evinced a life-long taste for dangerous activities, and so forth (Rabin, 1993: 124).

To succeed, the tobacco plaintiff has to be able to argue a case that moves beyond the blame that everyday conceptions of risk attach to their failure to be risk averse. It is this which has until relatively recently set the asbestos plaintiff and the smoker plaintiff apart. While the smoker plaintiff has increasingly born a duty to heed health warnings and protect him/her self against risk, the plaintiff who has been exposed to asbestos was usually not in a position to voluntarily limit his/her exposure. The child living in the mining town, the employee working in uncomfortable and intolerably dusty conditions, is considered by the law to be reliant on the defendant to protect them against known hazards. Especially, where their exposure was an incidence of their work, whether they were a rigger, miner, lagger, builder, plumber, process worker, teacher or office worker. Many children and spouses of people who worked in the asbestos industry were exposed as they washed overalls or played in a schoolyard covered in asbestos tailings (Handsley, 1997). The exposure of workers and people living in asbestos towns was not only largely involuntary, it happened in ignorance of the hazard to which they were being exposed. The moral claim of the asbestos diseased plaintiff is illuminated by the fact that the world’s major asbestos producers knew of the dangers of asbestos exposure and conspired to keep it a secret (Rabin, 2001, 353). Since the revelation of the ‘Cigarette Papers’, plaintiffs in tobacco litigation are now able to take up a similar strategy, particularly those who
commenced smoking in their childhood before the dangers of cigarette smoking were widely known in the public domain, or those who switched to low tar cigarettes in the mistaken belief that they presented less risk to health.

**Concluding Comments**

In the future toxic tort may become less useful as a technique of environmental governance for two quite significant and connected reasons. First, a successful action in toxic tort depends almost as much on being able to make strong moral claims for the plaintiff as it does on scientific evidence to support the plaintiff’s claim. Second, successful toxic tort plaintiffs have been able to situate themselves outside any complicity in their own toxic exposure. In the future, as Lee (2000) argues, outcomes in toxic tort will be complicated further by the ubiquitous and unpredictable nature of exposure to toxic hazards. This means that “[j]ust as it is more difficult to establish a causal link between individual action and ecological damage, because we are increasingly complicit in our tolerance of such damage, [so] it is hard to define a victim” (Lee, 2000: 81). In this situation toxic tort actions premised on the correlativity of the parties are an uncertain prospect. Not simply because causation is difficult to establish, but also because it will be difficult for the plaintiff to establish what Cane (1997) would argue is their moral claim to compensation.

Toxic tort litigation, is and has been, an occasion for the public assessment of risk which brings about a closer articulation of the body environment nexus. In this
chapter I have argued, however, that toxic tort is nevertheless an inefficient and often compromised endeavour, both because the hazards of post industrial society are difficult to identify and because the causal nexus between the damage suffered by the plaintiff and the hazard is difficult to trace.
CONCLUSION

Well before I signed on to write this thesis I worked as a plaintiffs’ lawyer. Among my duties was preparing cases against employers on behalf of their former employees who were faced with certain death from asbestos-related diseases. This was a stark way to meet ‘the environment as a legal subject’. In this guise, the environment is not the legal subject that so often captures the public’s attention – the pristine natural wilderness deemed worthy of legal protection - but a toxic and pernicious environment.

While I did not set out to write only about this particular ‘environment as a legal subject’, I can see now that my personal dealings with it were a powerful influence on my thinking. I can see now that it led me to give equal weight in the thesis to toxic tort litigation as a focus of the study, despite the fact that public law mechanisms are undoubtedly the dominant way in which the environment is articulated as a legal subject. In this sense, what the thesis has achieved in Chapters Six, Seven and Eight is an unbalanced set of examples of the environment as a legal subject, unbalanced in favour of toxic tort.

The thesis considered two different modes in which common law was employed as a governmental technology to address environmental problems. The first problem discussed in Chapter Six, was the legal recognition of environmental lobbyists and
their claim to represent the ‘public interest’ as stakeholders in the management of non-human environments. The processes by which non-pecuniary public interests are subject to pragmatic and situated calculation within the common law were the focus of that discussion. The second mode considered in Chapters Seven and Eight, was toxic tort litigation and its function as one of the legal devices through which environmental hazard and environmental harm are revealed and contested. Analysis of both these common law examples centred on the specific techniques and ways of thinking by which ‘the environment’ is constituted as a legal subject. These chapters demonstrated the pragmatic and situated calculation of the environment in the common law. Both case examples focused on how the delineation of central legal questions such as causality, rights, responsibility and blame within an environmental perspective, constitutes the environment as a legal subject.

Chapter Six considered how the notion of public interest has facilitated the extension of the Australian common law to recognise the claim to standing of environmental advocates. Simply dissecting the case law would not explain how the legal conception of the public interest shifted to embrace environmental interests, because a matter of public interest is not determined through precedent (indeed it is usually a means of avoiding precedent) and because there is only limited reflection in the cases on how a matter of public interest might be calculated or identified. In fact, the most that could be gleaned from the case law would be that in a legal sense the public nature of the interest is either apparent or not. The work of writers such as Hindess (1986) and Hacking (1990) were helpful in revealing why an understanding
of the case law alone cannot provide a satisfactory explanation of the shift in legal thinking. Both writers point to the need to consider the discursive context within which the public interest and the environment are calculated. It was argued that the Australian Conservation Foundation and other environmental advocates have been able to achieve success because they have been able to exploit and transform what Hindess calls the “conceptual and discursive conditions” (1986: 119) within which interest in environmental governance is situated, by other institutions such as the courts, government and media. Expertise in technologies that provide ‘objective’ data about the risk of environmental harm allows environmental non-government organisations to claim the status of environmental auditors. The newfound authority of the environmental advocate is, thus, constituted by the specific forms of knowledge of the environment that those advocates produce.

The environment as a legal subject is then, partially revealed by reflecting upon the nexus between the conceptualization of risk and the legal domain in terms of the adjudication of disputes involving potential environmental harm or toxic environmental hazards. The extent to which the common law has assimilated the vocabulary and techniques of calculation associated with risk in the legal assessment of environmental harm and hazard in toxic tort litigation was examined in Chapter Eight. As a prelude to that discussion two competing understandings of risk were discussed and compared in Chapter Five. One was the sociological theory of the ‘risk society’ propounded by Ulrich Beck which treats risk as the ontological reality of late modernity. The other was that produced through a Foucaultian
governmentality framework. Unlike Beck’s ‘risk society’ thesis, the governmentality approach does not grant risk a status as real, rather, it treats it as a product of certain forms of thinking and calculation. Aspects of each understanding, particularly the governmentality approach, were taken up in the thesis’s examination of the calculations and contingency that characterise legal governance of the environment.

In Chapters Seven and Eight it was argued that toxic tort litigation, while not a central, or even an efficient means of environmental governance, is nevertheless one of the forums in which factors that “make the environment an important concern for individuals” are articulated (Lanthier and Olivier, 1999: 75). The operation of toxic tort litigation reveals how conceptions of risk are treated in the legal domain, particularly how these conceptions of risk make the environment ‘thinkable’ as a legal subject. It was argued that these conjunctions of risk include insurantial, scientific, clinical and common sense notions producing a heterogeneous and multi-dimensional treatment of the environment as a legal subject. Furthermore, while the central focus of a toxic tort claim is the plaintiff’s situated and particular experience of a defined local environment, the claim is assessed in light of more theoretical and generalised constructions of the environment, as well as commonly held attitudes to managing environmental risk, which assumes the plaintiff, not just the defendant, is an informed and ‘rational’ individual, both risk aware and averse. In this way, the environment is situated as a “complex moral problem invoking notions of value and responsibility” (Coyle and Morrow, 2004: 109).
In researching these case examples I realised that in becoming a legal subject the environment was an extremely complex character. My research led me to also explore its scientific side, its aesthetic side and its governmental side. In the early part of the thesis – Chapters Two and Three - the manner in which the understanding of environmental forces developed by the life sciences were taken up and developed simultaneously with an aesthetic and spiritual appreciation of nature were examined. Much modern knowledge and understanding regarding the environment developed in part from the specialisation of scientific discourse and experiment, which formed certain areas of expertise, including biology, geography, ecology and epidemiology. The natural world was redefined by the systematic “study of populations and communities as a whole in relation to one another and to the environment” (Boughey 1971: 5). Modern ecology and associated technologies have facilitated the detailed mapping and auditing of physical environments and have profoundly effected our modern appreciation of ‘the environment’ as a dynamic and potentially fragile web of interdependent physical zones, spaces and activities. This scientific knowledge significantly contributed to governmental identification and elucidation of the environment.

The conceptualisation and application of eighteenth century scientific modes of thinking, in conjunction with economic development and increased productivity, led to the emergence of previously unconsidered connections and new problems regarding the management of the environment (Rutherford, 1999a: 42). In the early nineteenth century, the environment became physically more conspicuous both as a
thing of beauty and as a site of degradation. This led to the problematisation of the environment through the governmental discourse and practice that focused upon publicly harmful or dangerous aspects of nature. In the twentieth century, ecological thinking, in combination with post war security, prosperity and political stability identified the environment as a special focus of government, rather than a physical space that is simply the site of public health interventions or population resource dilemmas. ‘Systems ecology’ meant it became technically possible to efficiently conduct macro-calculations of environmental conditions, the impact of resource exploitation or levels of degradation caused by industrial development.

The shape of modern environmental governance has also been especially influenced by the scientific and ethical critique of environmentalism that connects the origin of ecological risks to technological application and commodity production. Modern environmentalism has emerged through the application of technical scientific knowledge. It has been rendered more meaningful through various interpretive frameworks of ‘environmental sensibility’, which treat the environment, not as a thing, or somehow ‘out there’, but as a dynamic process of which humans are a part, which has a history, an economy, and a power to transform and be transformed. Modern environmental sensibility has been inspired by certain forms of physical interaction with nature such as painting, gardening, walking, mountaineering, and collecting botanic specimens. It incorporates an aesthetic appreciation of the natural world and reflects certain ethical principles that privilege the intrinsic value of the environment. The environmental politics and action of organisations such as the
Australian Conservation Foundation is practically focused on protecting the environment from harm caused by the exploitation of resources and pollution. It is also underwritten by an environmental sensibility or ethic which values and seeks to preserve the physical environment as a place of beauty, refuge and wilderness.

‘The environment as a legal subject’ then, is far more complex than I imagined it to be, before I started this research, with a far more complex history. Legal governance of the environment has stretched and unsettled legal orthodoxy, the environment does not fit readily into any of the usual categories pertaining to legal rights and interests. The environment, as a legal subject, is not simply a physical space; it is a contingent and instrumental object, determined by human activity, social values, and legal and non-legal calculations.
REFERENCES


Hunter, I. (n.d.) “Michel Foucault: Discourse versus Language”. Unpublished MS, Griffith University, Brisbane.


**Cases Cited**

*Anns v Merton London Borough Council* [1978] AC 728

*Australian Conservation Foundation Inc. v Commonwealth* (1980) 146 CLR 493

*Australian Conservation Foundation v. Minister for Resources* (1989) 19 ALD 70

*E.M. Baldwin & Son Pty Ltd v Plane & Anor; Jsekarb Pty Ltd v Plane & Anor* (1999) Aust Tort Reports ¶81-499
Boyce v. Paddington Borough Council [1903] 1 Ch 109


Cambridge Water Co. Ltd v Eastern Counties Leather plc [1994] 2 WLR 53


Castano v American Tobacco Co., 84 F.3d 734 (5th Cir. 1996).

Chappel v Hart (1998) 156 ALR 517

Christopher Haar v Uneedus Scaffolding Pty Ltd (1989) Supreme Court of Victoria
No. 4918 of 1989

Complainant, Moore ex rel. Mississippi v. American Tobacco Co., No 94-1249
(Miss. Ch. Filed May 23, 1994)

Cooney v Ku-ring-gai Municipal Council (1963) 114 CLR 582

Donoghue v Stevenson [1932] AC 562

Daubert v Merrell Dow Pharmaceuticals, Inc. 509 US 579, 113 SCt 2786, 125
LEd2d 469 (1993).


Graham and Graham v Re-Chem [1996] Env. LR 158


Minister for Immigration and Multicultural Affairs; Ex parte Lam (2003) 195 ALR 502

Napolitano v CSR Ltd & Anor (1994) unreported; SCt of WA (Seaman J); Library NO 94087; 30 August 1994.

Newman v Motorola Inc. 218 F Supp 2d 769 (D Md 2002).

Newman v Motorola Inc. No. 02-2424 Court of Appeals (4th Cir 2003).

North Coast Environment Council Inc v Minister for Resources (No. 2) (1994) 127 ALR 617

Ogle v Strickland [1987] 13 FCR 306


Oshlack v Richmond River Council (1994) 82 LGERA 236

Oshlack v Richmond River Council (1998) 193 CLR 72

Podreresek v. Australian Iron and Steel Pty Ltd (1985) 59 ALR 529

United States Tobacco Co v The Minister for Consumer Affairs (1988) 82 ALR 509 (Einfield J.)
United States Tobacco Co v The Minister for Consumer Affairs (1988) 83 ALR 79 (Full Court)

Right to Life Association (NSW) Inc v Department of Human Services and Health (1995) 56 FCR 50; 28 ALR 238

Rylands v Fletcher (1868) LR 3 HL 330

Seltsam Pty Ltd and Anor. v McGuiness (2000) Aust Torts Reports ¶81-547

Smith v Eric S. Bush [1990] 1 AC 831

Sutherland Shire Council v Heyman (1984) 157 CLR 424

Tasmanian Conservation Trust Inc v Minister for Resources and Gunns (1995) 127 ALR 580

Tubemakers of Australia v Fernandez (1976) 50 ALJR 720

Uren v John Fairfax & Sons Ltd (1966) 117 CLR 118