The New Environmental Conflict

1.1. THE ECOLOGICAL CRISIS AS DISCURSIVE CONSTRUCTION

If there is one image that has dominated environmental politics over the last twenty-five years it is the photo of the planet Earth from outer space. This picture, which entered the public imagination as an offspring of the 1960s Apollo space programme, is said to have caused a fundamental shift in thinking about the relationship between man and nature. The confrontation with the planet as a colourful ball, partly disguised by flimsy clouds, and floating seemingly aimless in a sea of utter darkness, conveyed a general sense of fragility that made people aware of human dependence on nature. It facilitated an understanding of the intricate interconnectedness of the ecological processes on planet Earth. Indeed, the image, it is said, caused a cognitive elucidation through which the everyday experience of life in an industrialized world was given a different meaning.

In the early 1970s the image of the globe became the icon of a comprehensive political effort to address global environmental problems and save ‘Our Common Planet.’ The United Nations Conference on the Human Environment held in Stockholm in June 1972 had as its theme Only One Earth, and both the report Limits to Growth (1972) and the alternative Blueprint for Survival (1972) drew upon the image of the world as a ‘biosphere’, as one interacting whole.’ The UN report Our Common Future (1987), which

1 On the social construction and socio-political importance of this image, see also Sachs 1992: 107-9.
2 Cf. Ward and Dubos 1972; Meadows et al. 1972; Ecologist 1972: 26. The expression ‘Only One Earth’ was actually borrowed from the peace movement that emerged in response to the new reality of the atomic age in the 1940s. See One World or None: A Report to the Public on the Full Meaning of the Atomic Bomb, with essays by Einstein, Bohr, Oppenheimer, and Walter Lippmann and others (Masters and Way, 1946).

became the centre-piece of the environmental debate in the late 1980s and laid the conceptual foundations for environmental politics in the 1990s, even suggested that the confrontation with the image of the planet had created a new reality, and suggested that the image might, eventually, be found to have had a greater impact on thought than the Copernican revolution. And here the image led to a call for action: ‘This new reality, from which there is no escape, must be recognized-and managed.’ This appeal did not fall on deaf ears. Following the general endorsement of the Brundtland Report Our Common Future many Western countries published comprehensive documents outlining national environmental policy plans from around 1990. For all their differences, recent White Papers like the Dutch Nationaal Milieubeleidsplan (National Environmental Policy Plan-NMP, 1989) and This Common Inheritance (1990) in Britain both start from the recognition that the state of the environment calls for an integrated approach and outline a national strategy of bureaucratic regulatory management of the environmental problem, carefully positioning themselves within the context of the perspective of ‘sustainable development’ as proposed by Our Common Future. It is interesting to note that in both documents the photographic image of the planet earth as taken from outer space features prominently.

One might, of course, argue that too much attention to one simple picture is misplaced. Yet the career of the picture illustrates a profoundly disturbing feature of contemporary environmental

3 WCED 1987: 1.
4 The cover of the Dutch Nationaal Milieubeleidsplan shows the planet under a bold print of its sub-title: Choose or Lose. If one examines the photo more closely, it becomes obvious that the photo is actually manipulated. The image of fragility is given an extra dimension, since the surface of the Earth shows a crack that runs from pole to pole in what shows to be the very thin shell of the planet (cf. Handelingen Tweede Kamer 1988-9, 21 137, No. 1-2, and the sequence report, NMP-Plus in Handelingen Tweede Kamer 1989-90, 21 137, No. 20-l). The British report This Common Inheritance (DoE, 1990) shows the photographic image of the planet on the title page above the quote from John Stuart Mill from which the title is derived. By the first progress report the photographic image has been promoted to the cover (DoE 1991).
5 The political meaning of the metaphor of the lonely planet has of course been pointed out before. The more explicitly ideological application of the image, such as in Kenneth Boulding’s metaphor of the ‘spaceship earth’ or Hardin’s ‘life-boat’ metaphor, have been widely criticized (cf. Enzensberger 1973: 18 ff.; O’Riordan, 1983: 27 ff. and 102). Kwa has rightly pointed out that the scientific image of the earth as a closed eco-system in fact has very much the same bias (Kwa 1987).
The apocalyptic overtones in the presentation of global environmental problems seriously confines the political debate on what needs to be done, by whom, and under what conditions. Hence there is ample reason to examine in detail how the priority issues in environmental politics are defined, as well as trying to understand the implicit political decisions that are being made through environmental discourse.

The way in which environmental politics is made is an intricate matter and it is unproductive to think that there is a short-cut. It seems wrong, for instance, to suggest that science is merely used as a fig-leaf for policies. Likewise it seems a mistake to think that there is a clear-cut coalition of actors who construct these global environmental problems to further their own preconceived goals. In fact the globalization of environmental discourse seems to be much more the product of a very varied set of actions that have all in some way contributed to the present dominance of global environmental problems. Nevertheless, we can observe how the Brundtland Report functioned as the catalyst for change in environmental policy. There it is argued that

Jerry Ravetz has pointed out, environmental experts call for extremely hard decisions but have only ‘soft’ evidence to support their claims. In 1972 people might have been shocked as *Limits to Growth* pointed out that economic prosperity could not be assumed to continue to grow indefinitely. Yet it is evident that the nature of environmental politics has changed considerably since then. People are now confronted with a wide range of views, with experts and counter-experts, with debates among scientists from different disciplines or different countries, and realize that scientific controversy is an inherent element of environmental politics. Hard decision-making on global environmental problems requires an almost unprecedented degree of trust in experts and in our political elites at the same time as this trust is continually undermined by scientific controversies and political indecision.

Second, implicitly global environmental problems are presented as being a priori of a different order, and thus marginalize many other environmental concerns that might affect many people or eco-systems much more directly. The apocalyptic overtones in the presentation of global environmental problems seriously confines the political debate on what needs to be done, by whom, and under what conditions. Hence there is ample reason to examine in detail how the priority issues in environmental politics are defined, as well as trying to understand the implicit political decisions that are being made through environmental discourse.

The fact that smart scientists find complicated problems, try to explain them, and subsequently call for action is in itself, of course, no justification for concern. Yet there are at least two features of present environmental politics that could indeed be causes for concern: first, the changing basis of legitimate decision-making; and second, the hidden link between science and politics. First, as
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The time has come to break out of past patterns. Attempts to maintain social and ecological stability through old approaches to development and environmental protection will increase instability. . . . We are unanimous in our conviction that the security, well-being, and very survival of the planet depend on such changes, now.'

The Report was effective in proliferating an image according to which the twenty years that passed since 1972 are to be understood as a period of progressive social learning and an enlightened institutional crusade. Slowly awareness grew and political and organizational resistance gave way to a broad consensus around the notion of 'sustainable development.' Now time has come for serious policy-making.

It is undoubtedly true that such an institutional crusade has taken place. Indeed, the Brundtland Report was part of it. One of the main achievements of the Brundtland Report is to have presented the environmental case in such a way that it could bring round big institutions like the World Bank and the IMF which, in the 1970s, were still considered to be in the opposing camp. But this is where the potential problems with the Brundtland approach lie. Radical critics of the Brundtland Report claim that the whole idea of sustainable development is a rhetorical ploy which conceals a strategy for sustaining development rather than addressing the causes of the ecological crisis.' Indeed, after the Earth Summit, held in Rio de Janeiro in June 1992, had made the World Bank one of the central agencies monitoring the greening of policies all over the world, radical critics argued that this did not prove the success of the environmentalists, but their total collapse.'

This discussion illustrates that people may have widely differing perceptions of what environmental politics is about. In this light the present hegemony of the idea of sustainable development in environmental discourse should not be seen as the product of a linear, progressive, and value-free process of convincing actors of the importance of the Green case. It is much more a struggle between various unconventional political coalitions, each made up of such actors as scientists, politicians, activists, or organizations representing such actors, but also having links with specific television channels, journals and newspapers, or even celebrities. These so-called discourse coalitions somehow develop and sustain a particular discourse, a particular way of talking and thinking about environmental politics. These coalitions are unconventional in the sense that the actors have not necessarily met, let alone that they follow a carefully laid out and agreed upon strategy. What unites these coalitions and what gives them their political power is the fact that its actors group around specific story-lines that they employ whilst engaging in environmental politics. It can be shown that although these actors might share a specific set of story-lines, they might nevertheless interpret the meaning of these story-lines rather differently and might each have their own particular interests. Take the story-line of the rainforests as an example. The systems-ecologist might insist on the importance of the rainforests as an essential element in his or her mathematical equations that model the world as a biosphere, as an integrated and self-reproducing eco-system; the World Wildlife Fund is more concerned about the moral problem of forest destruction; while the singer Sting connects the fate of the rainforest to that of the culture of the indigenous people, thus stretching the idea of habitat protection to its limits. NASA may add to the credibility of the story-line through the publication of satellite photography showing the change of forest cover over time.

To be sure, there can be no doubt about the fact that the rainforest cover is in decline, but what exactly is the problem? All actors speak about the rainforest but mean (slightly) different things. If examined closely, the various actors have rather different social and cognitive commitments, but they all help to sustain, in their own particular way, the story-line of the destruction of the rainforests in environmental politics. Once the story-line gets enough socio-political resonance it starts to generate political effects, but who then controls the meaning of the rainforest story-line? What happens in the discursive construction of the rainforest as a public problem? How do the discursive construction and institutional response influence one another?

This book argues that the environmental conflict has changed. It has become discursive. It no longer focuses on the question of

8 For good discussions of the concept of sustainable development and the Brundtland Report, see Clark and Munn 1986; Redclift 1987; de la Court 1990; Pearce et

11 The concept of 'discourse-coalition' is expanded in Ch. 2.
whether there is an environmental crisis, it is essentially about its interpretation. ‘We are all Greens now’, politicians can be heard saying. Talking Green no longer connotes a radical social critique, and here the image of the planet evokes sentiments that help to create and sustain a perception of a common global ecological crisis, which implies shared values and common interests. As such it functions as a symbolic umbrella, as an inclusionary device, that constitutes actors as joint members of a new and all inclusive ‘risk community’. The image of the planet, once the catalyst for reconsidering our local environmental problems, has become the symbol of the view that the real dangers are those of a global physical crisis that threatens survival. According to this story-line the environment has become a problem of mankind which can only be resolved by one big united effort. As such the employment of the image of the planet is as much disempowering to more situated or indeed social understandings of environmental problems and its solutions as it is instrumental to the formation of a political consensus on the need for comprehensive and centralized global action.

What is forgotten is the issue of representation. As Benton and Redclift rightly ask, ‘Do we share an understanding of the global environment in the same way as we “share” the globe?’ It is my contention that this is not the case. To the extent that we do have a similar understanding of the global environment and its problems this is the product of the representations according to which we understand environmental change. Hence sustainable development should also be analysed as a story-line that has made it possible to create the first global discourse-coalition in environmental politics. A coalition that shares a way of talking about environmental matters but includes members with widely differing social and cognitive commitments. The paradox is that this coalition for sustainable development can only be kept together by virtue of its rather vague story-lines at the same time as it asks for radical social change.

This book examines the nature of the new environmental conflict. It argues that the new environmental conflict should not be conceptualized as a conflict over a predefined unequivocal problem with competing actors pro and con, but is to be seen as a complex and continuous struggle over the definition and the meaning of the environmental problem itself. Environmental politics is only partially a matter of whether or not to act, it has increasingly become a conflict of interpretation in which a complex set of actors can be seen to participate in a debate in which the terms of environmental discourse are set. The method used is discourse analysis, which is employed to illuminate the social and cognitive basis of the way in which problems are constructed. For this purpose the book examines the interaction between the social processes through which actors are mobilized around certain issues with the specific ideas and concepts that create common understandings of given problems.

This approach has major repercussions for the spatial focus of political analysis. I will argue that if examined closely, environmental discourse turns out to be essentially fragmented and contradictory. This is not surprising since environmental discourse is in fact the product of the interaction that takes place in practices that often lie well beyond the traditional political realm. Those discursive elements will often contradict one another, but at least as often concern quite separate aspects of reality. My interest in this book is to illuminate how certain dominant perceptions of a problem are constructed and how political decision-making takes place in this context of, and through, essentially fragmented and contradictory discourses within and outside the environmental domain.

Given the theoretical approach that draws on the work of Foucault and social psychologists like Harré and Billig, I consider it essential to look in detail at the specific practices through which common understandings are produced and transformed. The focus of this book is on the way in which these discursive elements are then mediated and drawn upon in policy discourses. This also puts policy-making in a different perspective. Policy-making is in fact to be analysed as the creation of problems, that is to say, policy-making can be analysed as a set of practices that are meant to process fragmented and contradictory statements to be able to create the sort of problems that institutions can handle and for which solutions can be found. Hence policies are not only devised to solve problems, problems also have to be devised to be able to create policies. The book aims to bring out the extent to which the practices of policy-making succeed in regulating social conflicts over environmental matters.

In Section 1.2 I will present some basic premisses on the basis of which the argument will proceed. Section 1.3 introduces the way in which I will go about analysing environmental regulation. Section 1.4 presents an outline of the new policy discourse of ecological modernization that now dominates the thinking about what environmental policies should be about. Finally, Section 1.5 introduces the normative questions against which we want to judge the way in which ecological modernization affects the regulation of key environmental problems. Finally, Section 1.6 presents our questions for research and introduces acid rain as an appropriate case for the study of the effects of the discourse of ecological modernization on contemporary environmental politics.

1.2. THE STATUS OF NATURE IN ENVIRONMENTAL DISCOURSE

This book takes issue with those analyses that start from a realist definition of the ecological problem and concentrate their analytical work on explaining why action is slow in coming, and who or what determined whether action was taken. A realist approach assumes incorrectly that the natural environment that is discussed in environmental politics is equivalent to the environment 'out there'. This assumption fails to recognize that we always act upon our images of reality and are dependent on certain discourses to be able to express ourselves. There images and discourses should themselves be included in our analysis. Cultural anthropologists have illuminated the cultural differences in our perception of nature. One culture may conceive nature as fragile and live with the certainty that natural equilibria are easily disrupted, another culture may be convinced that nature is robust and can therefore cope with certain disturbances. Actors may have quite distinct ideas of what the ecological crisis is about, with ideas about what sort of action should be taken differing accordingly.

Behind this is the epistemological problem of how we can know what nature really is. The intricacies of the philosophical debate go beyond the scope of this book, yet we can and should infer an essential feature from it. Both the Kantian distinction between the Ding-an-sich and our conceptions (Vorstellung) of the Ding-an-sich, and the Lacanian differentiation between the ‘Real’ and ‘reality’ seek to clarify the knowledge of the subject about the world ‘out there’. Both distinctions are based on the idea that what we know is being framed by experiences, by languages, by images, or even by human fantasies. Following Lacan we see all our knowledge of nature (and indeed, society!) as essentially metaphorical. We set apart the Real as a ‘hard kernel, which resists any process of modelling, simulation, or metaphorization.’ Reality, then, is always particular, it is always dependent on subject-specific framing or time-and-place specific discourses that guide our perceptions of what is the case.

This should not be misunderstood as an argument that denies the existence of severe ecological problems. It does, however, seek to qualify our statements on the state of the environment. As Neil Everden put it, ‘We must bear in mind that the current understanding of pollution is just that: the current understanding.’ Environmental discourse is time- and space-specific and is governed by a specific modelling of nature, which reflects our past experience and present preoccupations. Any understanding of the state of the natural (or indeed the social) environment is based on representations, and always implies a set of assumptions and (implicit) social choices that are mediated through an ensemble of specific discursive practices. This does not mean that nature ‘out there’ is totally irrelevant. Yet the essence of the argument is that the dynamics of environmental politics cannot be understood without taking apart the discursive practices that guide our perception of reality. In this section I will present five fundamental points that underscore the importance of this social constructivist orientation on the discursive practices in which environmental politics is made.

First, geographers working in the tradition of George Perkins Marsh have documented that environmental change cannot be seen as a temporary phenomenon, but is structural in character. Mankind has always used nature to further its own goals and this manipulation of the natural environment has been accompanied by a range of serious environmental problems. In this sense it is

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13 Cf. e.g. Thompson et al. 1990; Douglas 1992.

14 Cf. Žižek 1993: 44.
appropriate to refrain from using the label environmental ‘crisis’ and speak of the environmental ‘dilemma’ of industrial society instead. We can, however, differentiate between the features of environmental change that are problematized in distinct periods and try to explain these conflicts out of the interaction between physical change, changing social practices, and specific social sensibilities. In that case we in fact no longer analyse ecological problems but socio-ecological problems.

Second, debates on pollution always raise questions about the social order in which the pollution occurred. In her comparative study *Purity and Danger* the anthropologist Mary Douglas defined dirt or pollution as ‘matter out of place.’ This succinct definition presents a very astute understanding of what debates on pollution are about. Environmental change is of all times and all societies but the meaning we give to physical phenomena is dependent on our specific cultural preoccupations. Douglas shows that what is seen as ‘out of place’ depends on the social order within which meaning is given to phenomena. We can infer that attempts to redefine what is seen as dirt or pollution are implicit challenges to the social order since, as Douglas puts it, ‘disorder spoils pattern.’

To analyse discourses on pollution as quasi-technical decision-making on well-defined physical issues thus misses the essentially social questions that are implicated in these debates. Alternatively, the study of environmental discourse can bring out how socio-ecological questions of environment and social development are dealt with politically.

Third, debates on nature or pollution reflect the contradictions of the social developments against which they take place and of which they are part. This point is well made in the brilliant study *Man and the Natural World,* by the historian Keith Thomas. He describes the changing attitudes of the British people to the natural environment between 1500 and 1800 and illuminates how, in a phase of growing industrialization and urbanization, the growing domination and control of man over nature changed the attitudes of the British towards nature. It leads him to the conclusion that the relation of man and nature is governed by what he calls a ‘human dilemma’. The question seems to be how to reconcile the physical requirements of civilisation with the new feelings and values which the same civilisation had generated ... the growth of towns had led to a new longing for the countryside. The progress of cultivation had fostered a taste for weeds, mountains and unsubdued nature. The new-found security from wild animals had generated an increasing concern to protect birds and preserve wild creatures in their natural state.20

This paradoxical state of affairs is certainly still with us today. In Thomas’s account the paradox is resolved in the suggestion that the discourse on nature was a somewhat ambivalent, romantic reaction to societal modernization that celebrates nature and beauty as opposites to the harsh everyday reality of trade and industry. On this point Raymond Williams has argued that environmentalism mostly failed to address the social relations of which the very predicament was the result.21 This ambivalence in environmental discourse is also a fundamental point in Hays’s celebrated study on the US conservation movement.22 Hence debates on nature or pollution may reflect the contradictions of the social developments against which they take place but it is an empirical question whether or not (or how) these developments are problematized or how these ambivalences are being managed. More particularly, political analysis should illuminate the places, moments, and institutions where certain perceptions of environmental change and social development emerge and are reproduced, and should reconstruct the argumentative struggle that determines which perceptions at some point start to dominate the course of affairs in environmental politics.

Fourth, the environmental problematique is hardly ever discussed in its full complexity (‘in the round’). Environmental discourse tends to be dominated by specific emblems: issues that dominate

18 This social element almost unnoticeably slips into many more strictly scientific definitions of pollution, for instance as given by Holdgate: ‘The introduction by man into the environment of substances or energy liable to cause hazards to human health, harm to living resources and ecological systems, damage to structures or amenity, or interference with legitimate uses of the environment.’ (Holdgate 1979: 17, emphasis added).
20 Thomas 1983: 301.
21 Williams 1985. Obvious exceptions in 19th-cent. Britain were social critics like John Ruskin and William Morris, who combined the quest for preservation with explicit social criticism and came up with an argument for the redistribution of wealth and reorganization of society.
22 Hays 1979.
the perception of the ecological dilemma in a specific period. To argue that certain issues can be emblematic obviously is not meant to suggest that these issues are irrelevant or draw away attention from the ‘real’ issues. The political importance of emblems in environmental discourse is that they mobilize biases in and out of the environmental debate. They are the issues in terms of which people understand the larger whole of the environmental condition. As such, they thus effectively function as a metaphor or, to be more precise, as a metonym. Examples of emblems in environmental discourse of the last 1.50 years include deforestation in the nineteenth century, the destruction of the countryside (UK) or wilderness (US) around the turn of the century, soil erosion in the 1930s, pesticide pollution in the early 1960s, resource depletion in the early 1970s, nuclear power in the late 1970s, and global issues like the greenhouse effect and the diminishing ozone layer in the 1980s. The task of political analysis is to look at how actors are mobilized around such emblems and to examine the implications of this process of ‘coalition formation’ for the environmental discourse.

Fifth, discursive strategies matter. Today’s environmental issues are discursively created. A leaking oil tanker, for example, is of course a physical event in itself, but then so is an unreported chemical spillage. Calamities only become a political issue if they are constituted as such in environmental discourse, if story-lines are created around them that indicate the significance of the physical events (compare, for instance, the effect of ‘It is the fourth consecutive spillage in two months’ or ‘The tanker did not have doubly secured partitions’ with ‘The stormy weather will guarantee the chemical breakdown of the oil’). Here they depend on agency and discursive strategies. This is even more true for a phenomenon like acid precipitation (quickly redefined as ‘acid rain’) or global warming (discussed as the ‘greenhouse effect’), which are not clearly identifiable ‘events’ but are rather gradual processes, accidents in slow rotation, as Roqueplo has put it. Here the publication of a ‘report on survey findings’ or ‘new computer extrapolations’ replace the reality of an invisible calamity while press conferences are the second intermediary practice needed to make an environmental hazard into a political issue. Furthermore, the dominant role of emblems in environmental discourse indicates that some issues determine the public perception of a much more complex reality: hence if one (type of) disaster receives attention, other issues might pass relatively unnoticed. The discursive construction of reality thus becomes an important realm of power. If a discourse of concern could be diverted away from certain aspects of reality, no further action is needed. However, no one obviously creates a calamity single-handedly (or steers one away, for that matter). Discursive strategies have to be understood in their own social and cognitive context.

1.3. REGULATING THE ENVIRONMENTAL CONFLICT

What I am interested in is the way in which social conflicts over environmental emblems are handled politically. This is done by examining the regulation of these issues by means of environmental policy-making. First we will deal with the way in which we should understand the term ‘policy-making’ and subsequently we will describe how ‘regulation’ is analysed.

In a constructivist approach policy-making is not seen simply as
Experts make claims with regard to the What is more, the literature on the social perception of Policy-makers are defined as responsible politicians and their senior adminis-
Hence in this book regulation directly refers to conflict management and 

Forester 1982: 43. 
Wynne 1982; Fischhoff 19896). 

Forester’s words.28 Experts make claims with regard to the state of the environment; other actors promote specific solutions; politicians try to maintain an image of being in control of a situation; while NGOs may frame acid rain in terms of a preconceived critique of existing institutional arrangements; yet others may introduce the ethics of good-neighbourliness; while pollution inspectors may deny certain accusations just to conceal their structural regulatory failure. These various constitutive elements of the problem of acid rain are nearly all contested. Yet at the same time one can see how out of these discursive fragments certain claims ‘some-
how’ become related to one another and result in a particular definition of the policy problem. This process may be called the ‘discursive closure’ of policy problems.

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1.4. THE AGE OF ECOLOGICAL MODERNIZATION

1972 is often taken as the starting-point for the wave of environmental politics. It was the year of the publication of the report to the Club of Rome, *Limits to Growth*, and it saw the UN conference of the Environment, held in Stockholm, Sweden. This was at its time the biggest UN conference ever held. The 'environmental problematique', as the Club of Rome called it, has been on the agenda ever since, although the focus of debate has been on different emblems. Yet in many regards environmental politics has also changed considerably since that time. What interests us here are the dramatic changes in the way in which environmental policies are conceptualized. Immediately following the ascent of the environmental problematique in the hierarchy of political attention in the early 1970s, most Western countries created the environment as a (semi-)independent field of attention for the first time.

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environmental degradation calculable. Most notably, ecological modernization frames environmental problems combining monetary units with discursive elements derived from the natural sciences. This provides a common denominator through which costs and benefits of pollution can be taken into account. A second characteristic is the fact that environmental protection is portrayed as a ‘positive-sum game’. Likewise, the main obstacles to more effective protection are suggested to be dilemmas of collective action: there would be no fundamental obstructions to an environmentally sound organization of society, if only every individual, firm, or country, would participate. Environmental protection thus becomes a management problem. A third and related characteristic is the fundamental assumption that economic growth and the resolution of the ecological problems can, in principle, be reconciled. Hence, although some supporters may individually start from moral premisses, ecological modernization basically follows a utilitarian logic: at the core of ecological modernization is the idea that pollution prevention pays. The 1987 Brundtland Report Our Common Future can be seen as one of the paradigm statements of ecological modernization. The shift to the discourse of ecological modernization represents a general trend in the Western world. That is to say, we can see the same ideas, concepts, divisions, and classifications emerging in different countries and international organizations, such as the UN, the OECD, or the European Union.

The conceptual shift to ecological modernization can be observed in at least six different realms. The primary sphere where the shift to ecological modernization occurs is in the techniques of environmental policy-making. During the 1980s environmental policy-making came to be organized around a wholly new set of principles. Here at least two tendencies intermingle. First, the traditional judicial administrative structures that had been put in place in the 1970s were problematized. The deficiencies of the predominantly ‘react-and-cure’ formula for regulation were increasingly criticized, while the more innovative ‘anticipate-and-prevent’ variety gained credibility. Cross-boundary pollution illuminated further functional deficiencies. The functional frustrations with the compartmental division led to a call for an integrated approach to pollution abatement, and, likewise, the integration of pollution prevention into the activities of other ministries received more attention. A second tendency is at least as important. The hierarch-
was taken up following the resource crisis of the early 1970s and led to a number of influential publications.\textsuperscript{35} It was pioneered in the 1970s by American firms like 3M, but has really penetrated management practice in America and Europe from the mid-1980s onwards. On the policy side this led to the promotion of ‘low and non-waste technologies’, and gave rise to the idea of ‘multi-value auditing’ (measuring success not only in terms of money but also taking energy and resource usage into account). Anticipatory investments thus replaced the basically unproductive investment in, for instance, ‘end-of-pipe’ technologies. Its leitmotiv is that if you don’t put a substance into the environment, you don’t have to pay to get it out.

Fourthly, on the macro-economic level eco-modernist thinking conceptualizes nature as a public good or resource instead of the idea that nature is basically a free good and can be used as a ‘sink’. In this respect ecological modernization seeks to put an end to the externalization of economic costs to the environment or third parties. Furthermore, it puts great emphasis on the need to conserve or manage the scarce natural resources,\textsuperscript{36} stimulating ecological pricing, recycling, and technological innovation.\textsuperscript{37}

Fifthly, the legislative discourse in environmental politics also changes character. Given the fact that nature can no longer be regarded as a sink and that firms are now increasingly supposed to prevent pollution, the strict proof of causality by the damaged party often makes way for the idea that the burden of proof should be the concern of the suspected individual polluter, not the damaged or prosecuting party. In this discursive frame statistical probability and correlation became the basis for collective and unlimited liability.\textsuperscript{38}

Sixthly and finally, ecological modernization implies a reconsideration of the existing participatory practices. Ecological modernization is based on the acceptance of the existence of a comprehensive environmental problem. This also means that it seeks to bring to an end the sharp antagonistic debates between the state and the environmental movement that were characteristic for the 1970s. Ecological modernization acknowledges new actors, in particular environmental organizations and to a lesser extent local residents. Hence ecological modernization also shows itself in an opening up of the existing policy-making practices and the creation of new participatory practices (from regular consultancy to active funding of NGOs, from a reconsideration of the procedural rules of Environmental Impact Assessments to the regular employment of round table discussions and environmental mediation).

A new policy discourse as comprehensive as ecological modernization is not conceptualized as one united set of ideas but only gradually emerges after years of institutional debate. Sometimes its emergence can only be recognized retrospectively, yet mostly there will have been a hard core of ideas to which other ideas responded only to create a more or less coherent shift in emphasis that may bridge several related domains. In this case the ideas of ecological modernization had been floating around in various spheres for some time.\textsuperscript{39} From the late 1970s onwards we see story-lines emerging on the successful practices of 3M, Germany, or Japan. In Chapter 3 I will show how ecological modernization became the dominant discourse as a result of a specific argumentative interplay between governments, environmental movements, and key expert organizations. Here I confine myself to stating that in about 1984 ecological modernization was recognized as a potential alternative for policy-making by national governments and supra-national organizations in Europe and Japan. This is especially obvious in international environmental politics. The European Community’s Third Action Plan for the Environment of February 1983\textsuperscript{40} was written in eco-modernist spirit, and ecological modernization became the explicit focus of the discussion at the influential OECD conference on Environment and Economics of June 1984.\textsuperscript{41} The ministers of the European Community agreed

\textsuperscript{35} See Royston 1979; Huisingh and Bailey 1982; Huisingh et al. 1986.
\textsuperscript{36} Here the old macro-economic ideal of maximizing flows is dropped in favour of a materials balance approach: see Leiss 1978; Kneese et al. 1971.
\textsuperscript{37} See e.g. Daly 1977.
\textsuperscript{38} See Teubner \textit{et al.} 1994.
\textsuperscript{39} The need for an anticipatory strategy had been discussed in academic circles since the late 1960s and was also evident in the World Conservation Strategy (1980). As policy discourse it was promoted by the OECD who first introduced the theme in the council of ministers for the environment in May 1979: see OECD 1980: 5-10; OECD 1981a; see also Ch. 3
\textsuperscript{40} Commission of the European Communities 1983.
\textsuperscript{41} See OECD 1985. The conference was attended by delegations from OECD member countries made up of ministers, MPs, and senior civil servants as well as representatives from the world of industry, trade unions, academia, and environmental NGOs.
on a statement that called for the ‘wise management’ of the resources of the environment and called for the ‘integration’ of environmental policy into other policies, especially economic decision-making. It called for the endorsement of ‘sustainable development’ and came out in favour of ‘anticipatory environmental policies.’ It called for the ‘integration’ of environmental policy into other policies, especially economic decision-making. At the subsequent Economic Summit held in Bonn on 4 May 1985, environmental protection and economic progress were put forward as necessary and mutually supportive goals. As was said above, between national governments there was a marked difference in the extent to which they actually acted upon these ideas, yet ecological modernization was most certainly part of the debate. Sometimes authoritative advisory councils introduced them, or because they came up in think-tanks (both of which were the case in the UK), sometimes a government opted to restructure a large part of its policy-making on this footing (as in Germany or Japan). It is these alternative ways of conceptualizing environmental problems that marks the debate on the regulation of emblematic issues like acid rain or defines the appropriate response of national governments to problems such as the greenhouse effect.

From the early 1980s onwards, ecological modernization increasingly came to dominate the debate on environmental regulation. Although the debate has taken many twists and turns over the years, and although ecological modernization has come to mean many different things to different actors in different places, it is still reasonable to claim that ecological modernization as outlined above has begun to dominate the conceptualization of problems, solutions, and the social strategies through which regulatory achievements are to be made.

My claim is not that ecological modernization is hegemonic in the sense that no other discourses are to be found in the environmental domain. The thesis is that over the second half of the 1980s ecological modernization has become the most credible way of ‘talking Green’ in spheres of environmental policy-making and increasingly functions as the organizing principle for the innovation of institutional procedures in the early 1990s. What we want to investigate are the political consequences of this change in environmental discourse.

42 OECD 1984.

It is not difficult to see why the policy discourse of ecological modernization would appeal to governments. At least four reasons can be given. First of all, it positions itself in contradistinction to the **ex post** remedial strategy of the 1970s that did not produce satisfactory results. In face of that regulatory failure a new regime had to be devised. Ecological modernization can be read as a direct critique of these bureaucratic practices. The 1970s idea to control environmental pollution, dividing the environment into ‘components’ (air, water, soil, noise) and then drawing on specialized knowledge to define routine solutions for each sub-category, had failed. If anything, ecological modernization promotes cleverer regulatory mechanisms: fingers, not thumbs, to use Lindblom’s phrase.

Secondly, ecological modernization suggests a positive-sum solution to what had until then been seen as a zero-sum problem. Governments are well aware of their functional dependency relationship with business and generally realize that calling a halt to environmental degradation would normally involve imposing restrictions on industry. Ecological modernization, however, uses the language of business and conceptualizes environmental pollution as a matter of inefficiency, while operating within the boundaries of cost-effectiveness and administrative efficiency. Ecological modernization is the positive approach to environmental policy: environmental improvement does not have to be secured within the constraints of capitalist market logic (which would be a negative argument), ecological modernization suggests that the recognition of the ecological crisis actually constitutes a challenge for business. Not only does it open up new markets and create new
In this sense the discourse of ecological modernization puts the meaning of the ecological crisis upside-down: what first appeared a threat to the system now becomes a vehicle for its very innovation. Indeed, by now it is obvious that activities like waste management, pollution abatement, and risk management and insurance have themselves become big business.

A third and related reason is that ecological modernization explicitly avoids addressing basic social contradictions that other discourses might have introduced. Ecological modernization does not call for any structural change but is, in this respect, basically a modernist and technocratic approach to the environment that suggests that there is a techno-institutional fix for the present problems. Indeed, ecological modernization is based on many of the same institutional principles that were already discussed as solutions in the early 1970s: efficiency, technological innovation, techno-scientific management, procedural integration, and coordinated management. It is also obvious that ecological modernization as described above does not address the systemic features of capitalism that make the system inherently wasteful and unmanageable. The leap-frog movement of capitalist innovation, periodically writing off generations of production equipment, geographical areas, and generations of workers, are not addressed under ecological modernization. On the contrary, as the above suggests, ecological modernization might itself cause the writing off of generations of production equipment and industrial works.

Fourthly, ecological modernization is not merely a technical answer to the problem of environmental degradation. It can also be seen as a strategy of political accommodation of the radical environmentalist critique of the 1970s. Being the antithesis of the existing administrative judicial system, ecological modernization could mesh with the deregulatory move that typified public administrative thought in the early 1980s. Likewise ecological modernization had distinctive affinities with the neo-liberal ideas that were in good currency in government think-tanks and advisory agencies during the 1980s, especially concerning the need to restructure the industrial core of the economy of Western countries. As will be shown in Chapter 3, in that sense ecological modernization was an effective response to the call for alternative social arrangements as put forward by the environmental movements in the 1970s. For instance, ecological modernization straightforwardly rejects the anti-modern sentiments that were often found in the critical discourse of social movements. It is a policy strategy that is based on a fundamental belief in progress and the problem-solving capacity of modern techniques and skills of social engineering. Contrary to the radical environmental movement that put the issue on the agenda in the 1970s, environmental degradation is no longer conceptualized as an anomaly of modernity. There is a renewed belief in the possibility of mastery and control, drawing on modernist policy instruments such as expert systems and science. Furthermore, radical environmentalists, especially in the early days, were not solely committed to clean production and a restoration of respect for the integrity of nature but saw this as intertwined with a concern about increased self-determination, decentralization of decision-making, and general human growth. It seems as if, with the emergence of ecological modernization, these couplings have been marginalized.

Although it seems fair to contend that many actors would agree that the shift towards ecological modernization as described above is indeed taking place, it is also likely that they would hold quite distinct views as to what the meaning of this shift is. It might be tempting to come up with a progressive reading of history as a gradual development of ideological convergence, which is the way in which the Brundtland Report approaches the issue. Is it not a great achievement that there is now an agreed vocabulary and set of institutional procedures, that both social movements, experts, and governments seem to accept as the way forward? Yet the critics of Brundtland certainly uttered a legitimate concern when they argued that ecological modernization might well be the proverbial wolf in sheep’s clothing. Is ecological modernization in fact

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44 Schumpeter 1961: 83.
45 For a striking illustration of this point see OECD 1985: 226, which presents a summary of the proposals for change.
46 See Harvey 1989.
47 Cf. also Hajer, forthcoming.
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a rhetorical ploy that tries to reconcile the irreconcilable (environment and development) only to take the wind out of the sails of ‘real’ environmentalists? Is ecological modernization really any more than the confident and feasible answer to what is basically another example of inefficiency and market failure or is ecological modernization just a typical OECD initiative? Yet one may also wonder whether ecological modernization does not in fact have a much more profound meaning and could be seen as the first step on a bridge that leads towards a new sort of sustainable modern society. This openness makes ecological modernization into the intriguing subject it is.

The appropriate way to arrive at an answer to such questions is to conduct empirical research. That should show, first of all, to what extent the conceptual shift to ecological modernization has really occurred and whether environmental degradation has indeed become an accepted problem for governments. The second and more profound question is how the proliferation of eco-modernist story-lines affects the actual regulation and whether it leads to the institutionalization of a new type of socio-political practices. It is most likely, that something has changed, but we need a vantage-point that allows for the differentiation between one sort of institutional response and another.

This book is intended to develop insights into the way in which the emergence of the discourse of ecological modernization has affected environmental politics. A distinction of different strategies of environmental policy as made by Jänicke provides a useful first step. He distinguishes two remedial strategies and two anticipatory strategies in environmental policy-making, as illustrated in Table 1.1.\(^{48}\)

This differentiation shows that the mere recognition of environmental problems still allows for quite distinct responses. Ecological modernization would mean the shift from remedial to anticipatory strategies. Concrete case-studies should show to what extent the emergence of the discourse of ecological modernization leads to a shift from remedial to anticipatory policy-making strategies, and to what extent the recognition of certain problems leads to structural change.

This differentiation remains slightly superficial. This book starts

\(^{48}\) Jänicke 1988.

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<th>Type of policy-making</th>
<th>Remedial</th>
<th>Anticipatory</th>
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<td></td>
<td>1. Repair or compensation for environmental damage due to inherently damaging products and processes of production (e.g. financial compensation for damage)</td>
<td>3. Technological modernization’ whereby technological innovation makes processes of production and products more environmentally benign (e.g. increased efficiency in combustion)</td>
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<td></td>
<td>2. Elimination of pollution through application of filters etc. on inherently damaging products and processes of production (e.g. the application of flue-gas desulphurization equipment on coal-fired power stations to fight acid rain)</td>
<td>4. Structural change or structural ecologization whereby problem-causing processes of production are substituted by new forms of production and consumption (e.g. energy-extensive forms of organization, developing new public transport strategies to replace private transport, etc.)</td>
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\(^2\) Jänicke in fact here uses the term ‘ecological modernization’. Since it has a far more restricted meaning than ecological modernization as used in this book it is here replaced by ‘technological modernization’.

from the assumption that, depending on the discursive framing of specific emblems, the ecological dilemma potentially calls into question larger institutional practices. Above we observed that ecological modernization at least partly seems to draw on the very same institutional arrangements that brought the ecological crisis about in the first place: conceptually ecological modernization relies heavily on science, technology, and expert-led processes of change. We also observed that ecological modernization is a discourse that seeks to avoid addressing basic social contradictions. However, many theorists of the environmental conflict would suggest that it is questionable whether those basic social contradictions can be kept out of the debate on contemporary environmental problems.
Regulation in this respect could well turn out to be a fundamentally discursive activity. The question is whether we can show if such problems arise and, if so, how such problems are managed. What we need here are the conceptual tools to differentiate between different sorts of eco-modernist practices. To be able to come to such an assessment of ecological modernization I will analyse the emergence and dynamics of ecological modernization in the context of a social theory that presents a specific interpretation of the ecological crisis. For this purpose I take the work on ‘risk society’ and reflexive modernization as conceived by the German sociologist Ulrich Beck as point of reference.49

Beck’s Risk Society

Beck holds that the present ecological problems signify the emergence of a new type of societal arrangement that he describes as ‘risk society’.50 Risk society, according to Beck, basically connotes a new phase in the modernization process that follows the historical era of the industrial society. In the context of industrial society, modernization referred to the renouncing of traditional arrangements and the quest for the domination of nature. The label ‘risk society’ is meant to indicate a forced shift in the objective of modernization from the distribution of wealth and the mastery of external threats to the management of dangers that are the inherent by-product of industrial society itself. Thus environmental crises are equated with the immense risks that are inherent in the nuclear industry, biotechnology, etc. Risk society surfaces where the emphasis in politics shifts from the distribution of goods to a-forced-concern with the distribution of bads. In risk society the flip-side of progress, the unwanted side-effects and externalities of industrial society, become a central concern.

Beck’s risk society theory can be seen as a radicalization of Perrow’s ‘normal accidents’ thesis which showed how catastrophes are an inextricable part of the complex human-technical processes of industrial society.51 Beck suggests that the ecological deficit of industrial society directly backfires on the institutions that have been erected over the course of industrial modernization. The new nuclear, chemical, genetic, or ecological dangers do not respect geographical or periodic boundaries; they are hard to compensate, are often excluded from any sort of insurance, and can only partially be attributed to specific actors in terms of causality, guilt, or liability. Hence the risk society thesis would suggest that the practices on the basis of which environmental politics has so far been made, have to be fundamentally rethought. New environmental problems such as acid rain or global warming are not mere incidents that can be regulated in an incremental way. In fact they cast doubt on the social basis of the central institutions of modern society: science, the legal system, representational political institutions, and the market economy. Science is implicated because it contributed to the causes of the ecological problems and has been the prime source of legitimation (for instance in the case of air pollution, where science legitimated the so-called ‘tall stack’ solution to the urban smog problem of the 1950s, and thus heavily aggravated the acid rain problem). Legal arrangements have consequently individualized the attribution of guilt, which allowed for the effects to accumulate to their present proportions. Democratic institutions have been unable to guard the collective good of environment or amenity against the pressure of private gain, while the externalization of costs made the exploitation of nature into a legitimate source of economic profit. These institutional practices can now be seen to touch upon their (social) limits.

In his more recent work Beck has sought to elaborate on the risk society thesis by developing a general theory of reflexive modernization.52 In its most simple form, the argument here is that ‘the further the modernization of modern societies proceeds, the more the foundations of industrial society are dissolved, consumed, changed and threatened’.53 This embraces many different social spheres but in the context of environmental politics one can

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50 In actual fact Beck’s argument is more inclusive and also comprises the transformation of the organization of social life, but since this ‘individualization thesis’ constitutes a separate argument with less relevance to the study of environmental politics it will not be discussed here; see Beck 1986, pt. 2.
51 Perrow 1984.
53 Beck in Beck et al. 1994: 176. For non-sociologists it is easy to overlook the theoretical significance of this argument. Beck’s point is that sociological theory is essentially a product of industrial society. Hence nearly all its conceptual tools are made to analyse the internal dynamics of industrial society but these tools do not help to get the ecological problem in focus, simply because the effective domination of nature is assumed in social thought. Beck, on the other hand, suggests that the special significance of the ecological crisis for social theory is that it shows the incapacity of the central institutions of industrial society to regulate this crisis.
observe this structural sort of reflexive modernization where the modus operandi of the central institutions of industrial society that deal with environmental matters calls these institutions themselves into question. In Beck’s theory this historical phase of a reflexive modernization involves both chances and threats. The ecological crisis shows the incomplete nature of the institutions of modernity. These institutions might have been successful in the provision of an unprecedented wealth, but this came at great ecological costs. Now the question is whether society can find ways of acting upon this realization of the incomplete nature of modernity. Here the ecological crisis, so Beck argues, might become the stepping-stone to a new and superior sort of modernity. Yet this is by no means the obvious outcome.

Where social structures are loosened and political legitimation becomes problematic, new societal coalitions may manifest themselves that do not see the ecological crisis as a reason for more rationality, for more democracy, and more conscious social choice. Such a ‘counter-modernity’ (Gegenmoderne) is an option that Beck takes very seriously indeed. Here Beck points out two tendencies in particular: the tendency towards new variations of ecological fundamentalism and the erosion of the political realm from within. This latter tendency is manifest in the fact that in our societies the power of the centralized institutions of parliamentary democracy has been greatly reduced precisely on those issues that are most fundamentally involved with matters of life and death, such as the risks of mega-accidents, large-scale environmental degradation, or those inherent in the employment of medical high tech or DNA research. On those issues, according to Beck, political decision-makers effectively become subordinate to expert rule.54

What makes Beck’s analysis different from most proclamations of the techno-corporatist tendency in modern society is that he sees both tendencies as part of the emergence of what he calls ‘subpolitics’. Subpolitics refers to the structural displacement of important political decisions to other, formally non-political, realms. Politically important decisions are in fact often taken in places that are excluded from the definition of politics one would find in classical textbooks, such as the concealed worlds of laboratories, of scientific politics (e.g. in the definition of what constitutes state-of-the-art technology or with the definition of exposure limits of certain chemicals). Subpolitics also occurs when the activities of an environmental movement or a media campaign by some actors results in a redefinition of a political issue, which then becomes the input of the political process. Beck signals a growing discrepancy between the increasingly symbolic nature of activities of traditional politics and the increasing material effects of concealed and individualized subpolitical practices. Herewith subpolitics is somewhat similar to a Foucaultian analysis of power, where one would give emphasis to the study of the combined effects of various micro powers or power/knowledge rather than to the study of the activities of a single ‘sovereign’ (see Chapter 2).

In this book I will analyse contemporary environmental discourse against the background of the Becksian theory of reflexive modernization. We will see environmental politics as a site where the established institutions of industrial society are put to the test. The emergence and effects of ecological modernization are analysed in this light. This means that we will try to come to grips with the specific way in which an issue which potentially threatens major social and institutional commitments is dealt with politically. For this purpose we will not only study the political process of a more traditional sort but also include the study of the subpolitical processes that Beck calls attention to.

Admittedly, the framing of this study itself seems to give part of the answer. That is to say, the emergence of ecological modernization can be seen as an attempt to take the sting out of the tail of radical environmentalism in order to secure various social and institutional commitments. Yet mere reference to a new policy discourse will not do. What needs to be analysed is how such an abstract set of concepts and ideas can come to have real political effects on the regulation of the ecological crisis. What is more, for discourse-theoretical reasons I would insist that discourses such as ecological modernization are extremely hard to control and can therefore have unintentional effects of all sorts. Hence we need to

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54 Beck’s explanation for the endurance of the social consensus on this techno-scientific politics of progress has three elements. Until recently the dominant perception was that technical progress equalled social progress and thus the results legitimated the regime. Furthermore there was a consequent separation of the normative debate on the social consequences of development from the technicalities themselves. And, finally, this consensus could more easily be kept up since it was actively supported by the so-called ‘social partners’ who formed the core of the economy and profited most from the social arrangements: see Beck 1986: 324 ff.
devise a conceptual apparatus that allows for the empirical analysis of the dynamics of discourses in politics, which is the task undertaken in Chapter 2.

The focus of analysis in this book will be on the practices that construct the policy problems and their solutions. The special interest is to see to what extent the practices involved are seen to have a reflexive potential, that is to say we want to see to what extent they operate in their ‘industrial’ routine and to what extent they allow for the creation of new conceptual combinations and lead to new institutional practices. My usage of the term ‘reflexivity’ is thereby substantially different from Beck’s. Beck conceives of reflexivity as the self-confrontation of society or unintentional self-endangerment and distinguishes this from ‘reflection’ which refers to the knowledge one may have of these processes. Drawing on the insights of discourse-theory (which will be discussed in Chapter 2) I see reflexivity in the first instance as a relational notion that should be seen as a quality of discursive practices in which actors engage. Such practices are reflexive if they allow for the monitoring and assessment of the effect of certain social and cognitive systems of classification and categorization on our perception of reality. Reflexivity can thus be a quality of a metaphor or story-line that in a given context changes the perception of future perspectives. The simple metaphor of ‘pollution prevention pays’, for instance, illuminates the cognitive barriers of traditional business practice and makes new understandings of sound business practice thinkable. The employment of a story-line can also lead to a reinterpretation of the past, as for instance, with story-lines such as Chernobyl or Three Mile Island that allow for the reassessment of the virtues of the conceptual construct of ‘residual risk’, upon which the legitimate usage of nuclear power was based. But reflexivity may also be a consequence of the introduction of dissident voices in established institutional routines which interrupts the routinized way of seeing in a specific institutional realm. The reflexivity of actors is thus related to the extent to which they are able to mobilize and participate in practices that allow for the recognition of the limits to their own knowledge-base.

This outline of this research makes clear the central presupposition of this study, which is that ecological problems do not pose institutional problems by themselves, but only to the extent that they are constructed as such. Problems can be conceptualized in such a way that they pose an institutional challenge, they can be scaled down so as to become institutionally manageable incidents, or they can be seen as processes of structural change that are beyond human intervention. This is what makes the study of environmental discourse into the crucial activity it is.