1989

PERSPECTIVES FOR ENVIRONMENTAL LAW— ENTERING THE FOURTH PHASE*

*Professor Gerd Winter***

Environmental law is the law regulating the relationship of us to nature, understood both as the world around us *and* as the nature we carry within ourselves. (Therefore the term 'environment', with its primarily external connotation, is actually an inadequate term.)

I would like to distinguish four phases of this relationship between man and his life conditions. These phases might be regarded as an historical series, but they can also all be found among currently existing societies at various stages of development.

(1) The Circular Economy

The first phase can be characterized as a *cyclical economy*, one in which man uses nature while allowing her the material, spatial, and temporal possibilities necessary for self-regeneration. (On the other hand, he must also defend himself against nature, eg in order to survive periods of flood or drought.) He uses renewable energy resources (such as wood, wind, and water power), produces wastes which are primarily organic and which can be used as fertilizer, and consumes little (except in times of war), since the population scarcely increases and the standard of living is low.[1]

In this phase there is no specific environmental protection law, because the legal norms regarding the cooperative life of human beings also (albeit indirectly) provide for the preservation of natural resources. In a certain sense, *all* law is at the same time environmental law.

Take guild rules as an example. They functioned (so to speak) as intra-societal brakes on economic growth, simultaneously limiting the 'external', environment-affecting consumption of natural resources. Potential wastage of such resources was hindered by limiting productive capacity, and by emphasis on creating products with long working-lives.[2]

Another example is the utilization of the 'commons'—both commonly held fields and

* Translated by John R. Blazek

** Centre for European Legal Policy, University of Bremen, West Germany

[1] E. Schubert in: B. Herrmann (ed), *Mensch und Umwelt im Mittelalter*, 1986, s257ff.

[2] See examples of guild regulations, but also a discussion of their efficiency and distributive effects in M. Stürmer (ed), *Herbst des alten Handwerks*, 1979.

forested areas—by villages of the medieval and feudal times. Primarily an intra-societal distribution norm, commonly-held property also had an environmental impact: this form of ownership assured that the land was only utilized extensively, not intensively, since under such an arrangement it was not profitable for individuals to invest capital.[3]

A third example: rules governing marriage, eg the rule among the Ladakh, stipulating that a wife also married the brother of her husband, or the feudal rule that servants had to obtain the landlord's consent for marriage, had the effect of contributing to birth control.

(2) The Exploitation of Nature by Man

The second phase is characterized by an *exploitation of nature by man*. Such exploitation is ultimately based on the Newtonian view of the world, which entails a division between subject and object, a mechanistic conception of nature, and a belief in its fundamental manipulability.[4] This orientation leads to:

—an enormous waste of non-renewable energy sources,

—an 'artificialization' of nature, as chemical products (instead of means offered by nature herself) are employed as pesticides or fertilizers and, finally, to

—the utilization of nature as a huge depository for pollutants which are toxic and degrade either with difficulty or not at all.

Even human beings themselves, to the extent that they are a part of nature in their corporeality and their capacity to feel, break loose from the natural cycle. In the cities, many fall victim to health-endangering labour and living conditions; others, more fortunately situated, 'emancipate' themselves into a culture which either contemptuously dismisses nature or romantically sentimentalizes it.

In this phase (particularly the beginning of the 19th century), the law is increasingly oriented towards *releasing the inventiveness and energy of the individual*.[5] I mention here only a few significant sub-areas:

—freedom of trade replaces guild restrictions,

—risk of liability for damages caused by a producer is limited by introducing the principle of negligence, and by cutting off the neighbour's right to prohibit injurious pollution,

—the commons are expropriated, and unrestricted transfer of land holdings is initiated, so that property can go to that landlord who is most capable of rationally exploiting it,

—patent protections are created, providing an incentive for inventors,

—corporation law, taking on greater definition as it frees itself from earlier licensing systems, makes possible the combination of many individual capital funds, which join to form huge, abstract 'individuals' which will later even benefit from constitutional protections for their property holdings and economic activities.

[3] For a contemporate analysis see L. v Stein, *Die Verwaltunglehre*, vgl V II 3.1 (Die Entwährung), 1868. The economic model of the tragedy of the commons (G. Hardin, The Tragedy of the Commons, 162 Science 1243 (1968)) disregards the regulative impact of social norms which must have existed. Also, the massive growth of exploitation with the advent of the feudal landlords are not taken into account.

[4] F. Capra, The Turning Point, 1982.

[5] I borrow the concept from J. W. Hurst, Law and the Conditions of Freedom in the Nineteenth-Century United States, 1971.

In Germany, where compared with England the process of industrialization is delayed, active *governmental promotion* augments the provision of a liberal legal frame. In Prussia, for instance, tax law is shaped to support investment, subsidies are paid out for land amelioration and for technical inventions, the government runs model firms which force non-efficient competitors into modernization, and provides infrastructure such as technological education, as well as roads and railways.[6]

Overall then, in this phase a law predominates which releases and mobilizes the energy of individuals. Laws also exist dealing with the environment, but their aim is less environmental *protection* than assuring rights of exploitation and *the efficient allocation of natural resources*. Thus water rights, on the basis of private title, are restricted in favour of the most economical user. In mining law, the prerogative of the sovereign (or the state) to the exploitation of mineral resources is abolished. It is replaced by 'freedom of mining' (constrained only by a licensing arrangement), a system which put increasing pressure even on the property owners to tolerate underground exploitation.

The second phase also features the possibility of *preventing environmental damage by means of police power*. However, measures to protect the environment are triggered only after a *broad tolerance limit* is exceeded. Health dangers which are supposed to be prevented are, out of consideration for the needs of industry, 'relativized'. For example, the Prussian technical directive of 1895 concerning industrial installations[7] establishes as a guideline: 'It must be considered whether such disadvantages, dangers, or nuisances exceed that level whose tolerance can reasonably be demanded (both of immediate neighbours and of the general public) in the interest of industry, which is indispensable for the general welfare'.

Where damages were unavoidable, reliance for their minimization was placed on *spatial separation* and the construction of smokestacks which grew ever higher as time went by.

(3) The Planned Management of Nature

The police power was no match for the momentum built up by the unleashed productive forces. Air in the cities became harder to breathe. Rivers foamed and stank. Mountains of garbage piled up. Many plant and animal species died out. Previously untouched landscapes were 'developed'. Such were the news bulletins which heralded the onset of the third phase: *the planned management of nature*. The police power law, which had only set broad outer limits, transformed itself into a more actively interventionist preventive law. Environmental *allocation* law became environmental *protection* law. And thus developed a mass of specific environmental laws, forming the counterpart of the emancipatory laws and intending to keep within bounds the social costs caused or tolerated by the latter. Here are several examples of the law production during this phase, which started in the early 1970s:

—Air pollution control (in the former West German Industrial Code still *cura posterior*, modification of continued freedom of trade) becomes the subject of its own comprehensive pollution control law.

—In water law, a series of renovations create a new technical law of emission

[6] R. Koselleck, *Preußen zwischen Reform und Revolution*, 1976, 600–17.

[7] Technische Anleitung betr gewerbliche Anlagen from May 15, 1895 (Ministerialblatt 1895, 196).

avoidance to underpin the traditional approach of resource management (including full resource utilization).

—Waste law, originally only concerned with garbage collection, is converted into a law regulating deposit methods and facilities.

—Protection of air, water, and land against pollution from various sources is advanced by subjecting chemical products to a regime of potential marketing restrictions.

—In nuclear energy law, the earlier emphasis on development of the industry is replaced by a new priority: security.

—In transportation law, the goal of satisfying every traffic need is qualified and made subject to a balancing test against environmental considerations.

—Laws protecting nature cease focusing on isolated parks and spots of scenic beauty, and develop broad protections for nature and the landscape, as well as plant and animal species.

This movement can also be traced on an international level: thus Common Market law is abandoning its single-minded concern with the establishment of free international commodity exchange, in which environmental protection only appears as a hindrance of trade, and is developing an actively intervening environmental law.[8] A majority rule prevents the slowest member country determining the common market standards. And where the uniformity rule is preserved those who want to proceed faster are allowed to do so.[9]

Overall, one might sum up the environmental law of the third phase with the following three characteristics:

First: the law attempts to protect nature by drawing a line between it and human activities, by limiting the impact on nature via a definition of *tolerance thresholds*. Dangerous materials are classified according to their injurious characteristics and subjected to a regime of labelling and marketing restrictions. Quality objectives are set for air, water, noise, and soon also for the soil.

A second characteristic is reference to the *technically feasible* as the measure for damage avoidance. Maximum emission values for exhaust, noise, and waste water, as well as regulations concerning technical back-up devices, pollution-minimizing production processes, and precautionary measures for handling accidents are all derived from the level of technical development. This development also encompasses the method of risk analysis. The overall deterministic or engineering-oriented decision, made by someone possessing long experience with a certain technology, is replaced by finer risk analyses which dissect a complex installation into its sub-components, quantitatively ascertain their failure probabilities and then yield determinations regarding the overall probability of particular failure sequences. Simulation takes the place of looking at concrete evidence.[10]

A third characteristic, beside these material criteria of tolerance limits and the technically feasible is related to the form of environmental law. Modern environmental law is strongly marked by an *interventionistic orientation*. It is a law that utilizes prohibi-

[8] E. Rehbinder, R. Stewart, *Environmental Protection Policy*, 1985; N. Reich, *Förderung und Schutz diffuser Interessen durch die Europäischen Gemeinschaften*, 1987.

[9] L. Krämer, 'L'Acte Unique Européen et la Protection de l'Environment', *Revue Juridique de l'Environnement*, 1987, 449.

[10] H. Hauptmanns, M. Herttrich, W. Werner, *Technische Risiken: Ermittlung und Beurteilung*, 1987, 16–40.

tions, commands, permit provisos, taxes, and subsidies, and thus intervenes in an economy which in principle is regarded as 'free'. Connected with this is a massive deployment of administrative resources, since the details of products and production methods must now be tested in prohibition or permission procedures. This is true not only for dealing with new plants and new, dangerous materials, but also for the many existing installations and materials. Although, in their resistance to demands to conform to new standards, the proprietors of older plants relied for a long time on the constitutional guarantee of protection for property, this guarantee is now no longer absolute, a programme which, of course, again demands very intensive administrative activity.

(4) Thinking About New Solutions

All this sounds very progressive, but the effects are desolate. Admittedly, from the outside, some things do appear better. Blue skies can again be seen, the fish population is regenerating, garbage is not lying around in the open, industrial plants are surrounded with greenery, life expectancies have risen. But the less visible dangers have presumably grown: contamination from heavy metals, chlorinated hydrocarbons, nutrients and pesticides, the carving up of the landscape, the heating up of the atmosphere. The dangers have not been eliminated from our world. They lie hidden, only to break out all the more catastrophically—in major technological accidents; in epidemic injuries, whether the death of forests due to acid rain, or the cancers and allergic reactions elicited from the human body; and in the expansion of the deserts or the increase in landslides and floods caused by climatic changes.

The planned management of nature thus appears to have had little success. Recognition of this has provoked an interlude of *thinking about new solutions*, a process that is still underway. A solution might be found either in finally perfecting planned management, or in something radically new, something reaching down to our philosophic foundations. In any case, the starting point for a new solution must be an analysis of the shortcomings of the third phase—something that will be attempted in what follows.

We have learned that the *tolerance thresholds*, which are set in the maximum values, do not exist with general, equal validity for all organisms and materials. There can be no scientific basis for these maximum values: one reason is that the chains of impact for materials are simply too complex to calculate, especially given the fact that many dangerous materials react synergistically with other artificial (or even natural) materials; another reason is that the biological variability of receiver-organisms is too great. Although science can at best establish a certain spectrum, which due to the relevant synergisms and organisms might be very broad, it has nevertheless arrogated to itself the task of proposing maximum values. The result is a scientific form of decision-making which implicitly refers to completely different standards—above all, those of economic feasibility. Thus it is no surprise that most maximum immission values in effect do nothing more than fix per decree the current levels, at best reduced by a certain safety factor.[11]

What alternatives exist to this situation? Increasingly, *procedural solutions* are pro-

[11] See the contributions of D. Beyermann, L. H. Grimme et al, and Schmölling in: G. Winter (ed) *Grenzwerte*, 1986.

posed.[12] The boards which generate these maximum values shall be composed pluralistically, so as to reflect various scientific opinions and social interests. The process of establishing maximum values shall be more openly structured, made more accessible to the public, analogous to the official planning procedures provided for under various laws.

To be sure, this is a possibility worth considering. But the question remains: according to what criteria should these boards and procedures substantively orient themselves, and to which priorities should they pay attention when setting the appropriate maximum value? After all, quite heterogeneous interests clash with one another in these procedures. It can hardly be expected that they will come to an agreement in 'domination-free' discussion. In effect, substantive priorities would tacitly be established—via preliminary decisions regarding rules for board membership and voting procedures.

Thus the question arises whether it is possible to determine more carefully than before just how much damage a given action will impose on nature (to which human beings in their vegetative dimension also belong—which is why schemes to construct separate 'rights' for nature[13] are not appropriate). I would submit that we should alter the imaginary point around which the range of tolerance has hitherto extended. Until now it was centred around the sickness and death of organisms and ecosystems; instead, we should move it to the level of disturbances, which for organisms would mean impairment of well-being, and for ecosystems disruptions of a given equilibrium. For the natural sciences, such a way of thinking (from the standpoint of life instead of death) would mean, for example, that in the currently widely used LD 50 test for toxicity of substances one would no longer seek the lethal dosage (LD) for 50 per cent of a trial group (eg fish), but rather the dosage range which impairs their well-being.

Such a sensitivity for life would naturally mean that the maximum values as they currently stand in regulations and administrative decrees must be drastically lowered. Here is where the pluralistic boards and procedures mentioned earlier would receive an important function: that of planning meaningful step by step reductions which, after a transitional period, would arrive at the target values.[14]

We have also gathered experience with respect to the other standard, ie the realization of the *technically feasible* in damage avoidance. Behind this standard of the technologically feasible stands an image of encapsulation—of the closing-off of dangerous products and production methods from living nature. I believe that this strategy is not realizable with sufficient certainty: for one thing, leakages are unavoidable. Despite the relative insignificance of individual cases, in absolute terms they could add up to a considerable sum. Another point is that the retention of harmful pollutants ultimately leads to the stockpiling of huge *quantities of concentrated special wastes* which in turn must be encapsulated in salt domes, mines, and—*ad Calendas Graecas*—in 'temporary' storage sites. A further reason for the unrealizability of this strategy is that *accidents* will unavoidably occur, releasing massive amounts of the dangerous substances.

Besides this faulty logic of containment, the standard of the technically feasible has a

[12] See eg K. H. Ladeur, in: op cit, n11.

[13] C. Stone, *Earth and Other Ethics*, 1988.

[14] A disentanglement of sensitive quality objectives and (admittedly not demanding) intermediate working thresholds is practised in Soviet occupational health, see G. Majone, 'The Logic of Standard-Setting: A Comparative Perspective', Reprint from *Zeitschrift für Umweltpolitik*, 1982, 305.

second major flaw: it is a *technical* standard, and that means at the same time that it systematically ignores *human failure*. Yet we know that human error has been an essential contributing factor in many previous accidents.[15]

A third point is that such risky technologies are increasingly constructed on the basis of *simulation*. However conclusive such simulations in themselves might be (and however deserving respect of their refinement), their fatal flaw is the input data, which are all the less reliable to the degree that we do not dare to gather experience via trial and error, since the failure of a real plant would bear such devastating consequences. Paradoxically, we can therefore *know* the least about those technologies bearing the greatest potentials for harm.[16]

The way out of this situation is seen by many in still better technology. To the extent that this relates to the waste problem, reliance is placed on the burning of special wastes and on gene technology. However: incineration consumes usable energy and produces new harmful substances, and genetically-manipulated organisms which transform harmful substances can cause damage beyond their intended work programme.

One way out of such technology traps would be to formulate technical requirements in such a way that they no longer merely (and abstractly) attempt to accelerate technological development, but instead primarily influence the direction of development, and in so doing—under certain circumstances—have a decisively *retarding* effect. The aim of such intervention must be the spread of 'soft technology', ie one which enters into a productive exchange with nature and is not forced to use containment—a technology which strengthens the useful natural forces and substances, which is reversible when mistakes become apparent, which is tolerant of failure, which from the start takes the possibility of human error into account, which utilizes usable substances and energy sparingly, and which recycles instead of allowing emissions permanently to escape.

The proposals that I have sketched out in the area of tolerance limits and the level of technology aim at a new qualitative orientation for environmental law. But alongside the problem of quality there is also one of *quantity*. For example, if use of the catalytic converter succeeded in reducing the harmful emissions of a car, this effect could nevertheless be annulled if enough other cars were put on the road. Thus, the problem of reducing environmental burdens through qualitative requirements imposed on each unit (of a product, plant) is accompanied by the problem of reducing the quantity of units themselves. This generates a quest for a standard of needs analysis and a critique of needs.

Naturally, the question then is: how should such qualitative and quantitative standards be determined and enforced?

Most of our experience has been with the *interventionistic form*, in which our environmental law is currently clothed. One must attempt to see clearly what the state has taken upon itself, when it demands (as in the recent German chemicals law) that all new chemicals (and gradually all of the old ones) must be subjected to administrative examination. Industrial production in West Germany currently utilizes around 100,000 dangerous chemicals in millions of different preparations, and each year sees the introduction of approximately 100 new potentially dangerous substances. They would have to be tested for toxicity, harmfulness to fruit, carcinogenicity, mutagenity, degradability, and much else—each individual substance, each preparation! Clearly

[15] C. Perrow, *Normal Accidents*, 1984.
[16] C. Perrow, op cit, 62–100.

this is an impossible task. During the last eight years only a single substance, PCP, has been taken fully off the market, and extensive restrictions have been imposed on only three others (formaldehyde, dioxide, and asbestos).

Such an overload necessarily leads to non-enforcement. It may be recalled that the state has taken on such an enormous control programme not only with respect to chemicals, but also *vis-à-vis* plant and product related environmental law. It simply cannot fulfill this programme, and so it is seeking alternatives for handling the situation. Thus it propagates the so-called *cooperation principle*, a principle of interaction with 'partners' on the basis of voluntary agreements, waiving sanctions in exchange for a promise of good behaviour.[17] It may be that in certain areas the cooperation principle actually does help somewhat, since without personnel, information, or power one would otherwise achieve absolutely nothing.[18] Yet it is justified to be sceptical about the readiness of the 'partners' to voluntarily forgo economic opportunities. The exclusion of the public from these agreements is particularly dubious. Cooperation, flexibility, and informality are legitimate equitable methods for resolving exceptional cases, within a general framework of the (in principle) equal application of the law; proclaimed as a general principle of implementing the laws, it reduces them to bargaining chips and legislation to strategic calculation.[19]

It is a sociologistic fallacy to believe that the law has to adapt itself to the facts. Some try hard and turn forms of violation of the law into legal forms. For instance, administrative inaction *vis-à-vis* an offender of water pollution regulation has been termed a 'toleration' (Duldung), and a toleration is thus postulated to legitimize the offence and hence exclude administrative action.[20] Another and more notorious example concerns a nuclear fuel factory in Hanau, Greater Hesse. About a year ago it was revealed that the firms did not hold a licence for the greater quantities of plutonium, which they were handling. The problem the responsible minister was facing was how to avoid closing down the factory and entering into a lengthy formal licensing procedure with an unforeseeable outcome. The solution he found was to give birth to another new juridical creature: the preliminary consent. It sounds like good doctrine, but bluntly distorts the very idea of formal procedures.

Instead of denaturing the interventionistic form as such, one should try reducing the burden of the tasks it is called on to perform. Let us look again at the double structure of emancipatory and controlling law mentioned above. This double structure must be regarded as a failure. The controlling, social costs-reinternalizing law sits atop a legal area which first releases individual inventive energies. It is thus overburdened, since the release of the subject from social bonds and the bonds of nature, (as it had been legally formed after the first phase described), cannot be reversed artificially by the state.

The way out of this situation can only be to build solidarity with the environment into the mobilizing, subject-emancipating law itself. Concern for labour power, to cite a familiar example, was not effectuated as a purely administrative programme, but was built into corporation law itself; the regard for natural life conditions must be treated the same way. *The emancipatory law* must therefore be *inoculated with ecological considerations.*

[17] Compare E. Bohne, G. Hartkopf, *Umweltpolitik*, 1982; E. Bardach, R. A. Kagan, *Going by the Book*, 1982.

[18] K. Hawkins, *Environment and Enforcement*, Oxford, 1984; G. Richardson, A. Ogus, P. Burrows, *Policing Pollution*, Oxford, 1983.

[19] G. Winter, 'Bartering Rationality in Regulation', *Law and Society Review* 219 (1985).

[20] A. Randelzhofer, D. Willke, *Die Duldung als Form flexiblen Verwaltungshandelns*, 1984.

The one-dimensional pursuit of economic goals, which established itself with this law, must be expanded, so that ecological interests are immediately represented in it, and not always merely mediated ex post facto via controlling administrative programmes. This was also recognized by the Single European Act that states that environmental policy should also be part of the other policies of the European Community,[21] a clause which will have a hard time being vitalized given the present preoccupation of EEC legislation with releasing the market forces of European nations.

I will mention just a few examples of such a reformation. In *corporation law*, one could expand the legal concept of the corporate interest (which, eg, delineates the board chairman's duty to inform stockholders and the liability for actions harmful to the corporation), so that, beyond the stockholders' interest, not only the managerial perspective and the demands of the workers (which have already received recognition) but also environmental protection enters into it. One could also consider reforming decision structures within corporations: on lower levels not reached by corporate law there are already a multitude of employees legally charged with environmental concerns (Betriebsbeauftragten), and at board of directors level an environmental director has been proposed.[22]

Standardization is overdue for being opened to environmental concern. The German Institute for Standardization (DIN), a body self-administered by the industry, has already established a consumer protection committee. Why not add an environmental protection committee through which draft standards have to pass for approval?

With regard to *patent law*, it needs to be considered whether the granting of exclusive exploitation rights should not be tied to more conditions. Until now it was sufficient that the invention be new and commercially exploitable. Ecological considerations have had only a very peripheral significance in the proviso against products contrary to the 'ordre public'.

The *law against unfair competition* must be further developed. The class action for consumers should be supplemented by a class action for environmental interests, so that, to take one example, misleading advertising can also be attacked from an environmental perspective.

Tax law should be revised insofar it incites obsolescence of products by providing short periods of time for depreciation. Tax incentives for environmental protection, on the other hand, seem to favour end-of-pipe-technologies.

In conclusion, I would like to reiterate the type of reorientation I feel is necessary, and which I see as already having been partially initiated:

—first, the establishment of more sensitive tolerance limits,

—second, the introduction of a technology standard which points in the direction of soft technology.

—third, a benefits examination.

All of this must be seen not merely as a controlling law and administrative programme but rather as a programme which is inscribed into that body of law which at the outset releases the individual's economic energy. One could say that all law must become environmental law, just as earlier all law was also at the same time environmental law—with the decisive difference, of course, that the protective impact of the earlier

[21] Art 130 r of the EEC-Treaty.

[22] E. Rehbinder, 'Reflexives Recht und Praxis—Der Betriebsbeauftragte für Umweltschutz als Beispiel', in: *Jahrbuch für Rechtssoziologie und Rechtstheorie*, vol 12 (1988).

law was an unconscious side-effect of intra-societal legal bonds, whereas in modern society, in which the subject has been irrevocably released, such an effect can only be achieved by conscious efforts towards the legal constitution and regulation of this subject.[23]

[23] Ending up I realize that due to my Western bias I left two phases out. These are ancient (Asiatic) despotism and modern bureaucratic socialism (see Bahro R. *Die Alternative*, 1977). I leave it to the reader to trace their environmental evolutionary logic.