M. Faure and M. Visser

How to Punish Environmental Pollution? Some Reflections on Various Models of Criminalization of Environmental Harm

1. INTRODUCTION

Problems of material criminal law and evidence are often related. This is certainly true in environmental criminal law. The way environmental crimes were traditionally formulated in the legislation of most countries, was to punish emissions without a licence or violations of the conditions of a licence. Therefore, the scope of criminal liability for environmental pollution depends largely on questions of administrative law. This way of shaping environmental criminal law obviously had implications on how to prove environmental pollution. Given the technical nature of the crimes (violation of licence conditions), the influence of technology and technical expertise in trials was inevitably high. In the 1980s policy-makers became increasingly dissatisfied with this 'administrative dependence' of environmental criminal law. Therefore many legislators sought ways to punish environmental pollution directly and this has had consequences on the way environmental crimes are proven.

In this article we would like to reflect upon the various possibilities available to punish environmental pollution. More particularly we would like to analyze the relationship between the way an environmental crime is defined in legislation and the conditions of proof that must be met to provide evidence of this crime. In general we believe that several questions arise with respect to the increasing tendency to provide direct protection of ecological values through the criminal law. In some cases this criminal law protection is effectuated through the use of vague concepts such as a duty of care. This leads to several questions, not only how one can prove the breach of such a duty of care and what the role of technical evidence should be in that respect, but also whether the use of these vague concepts conflicts with general principles of criminal law related to the rule of law. The question will therefore arise whether it is possible to provide for optimal protection of ecological values while guaran-

1. METRO (Maastricht Institute for Transnational Legal Research), University of Limburg, the Netherlands.
2. We thank Günter Heine, David Rofe and Theo de Roos for helpful comments on an earlier draft of this article.
4. Where the notion licence (conditions) is used in this paper, we also refer to exemptions.
How to Punish Environmental Pollution? Some Reflections

teeing a minimum legal protection to the defendant and minimum guarantees in respect of the law of evidence.

Obviously we cannot deal with all the problems relating to the evidence of environmental pollution within the scope of this paper. A whole treatise could be written on e.g., the question of whether probable causation could be used as evidence in a criminal case. Also, the particular question of how exactly samples of polluting compounds should be taken, providing optimal guarantees for the rights of the defence, would require a separate paper. We will not discuss all these matters, but we will try to examine the way environmental pollution can be punished at a more abstract level by using comparative legal methodology. This seems to be extremely fruitful since still many differences exist between different legal systems. However, it will be illustrated that many legal systems have to cope with similar problems when criminalizing environmental pollution. Within this general framework we will address the question whether the judge can assess the evidence of environmental pollution himself or whether he should largely rely upon data presented to him by technical experts. Is there, in other words, still room for the classic autonomy of the criminal law, given the large dependence of environmental criminal law upon administrative, or at least, technical decisions and/or information? Obviously this is connected to the question of whether there is ex ante enough certainty of the precise scope of criminal liability or whether this is actually filled in through ex post expertise.

Our paper is set up as follows: after this introduction we will briefly outline how we have analyzed the various models of environmental criminal law (2). We will then indicate the evolution of how environmental pollution can be criminalized by examining several models of environmental criminal law and discussing the relationship of each of these models with the law of evidence applicable in proving the existence of a crime under each of these models (3). In 4 we will discuss some of the policy implications of this comparison and some concluding remarks will be made in 5.

2. METHODOLOGY

Several different possibilities for punishing environmental pollution exist in current legislation. All of these models have different implications for what must be proven in a Criminal Court. The question that is of particular interest to us is whether incrimination (and therefore the information needed to prove a violation of this provision) is addressed directly towards the protection of the environment or whether such protection is only achieved in an indirect way, e.g. by criminalizing the violation of licencing conditions.
We will therefore give a brief overview of some of these modes of punishment and address the above questions from a critical perspective.\(^6\)

In order to facilitate the comparability of the description of the various models we will try to follow a similar pattern. First, a general description of the way the particular model works will be provided (1); then the legal method of protecting the environment through the particular model will be outlined (2); in addition a brief critical perspective of the model will be presented, e.g. by referring to the \textit{lex certa} principle (3). We will then examine what must be proven in the particular model (4) and what the practical consequences with respect to the requirements of evidence are (5). Finally it will be illustrated that the way the legislator chooses to provide criminal protection of the environment has a bearing on the role and task of the various parties involved, such as the Public Prosecutor, defence attorneys and the judge.

When describing the various models we will use a comparative methodology. Indeed, most of these forms of criminalization of environmental damage can be found in some way or another in many legal systems. Therefore, examples will be given mainly from Dutch, Belgian and German law.\(^7\) In addition, we will pay some attention to the resolutions of the XV\(^{th}\) International Congress of penal law.\(^8\) The reader should, however, bear in mind that most legal systems make combined use of some of the models. Moreover, it is sometimes difficult to classify a certain provision under a specific model. The choice in that respect will often be arbitrary. In order to make clear how environmental pollution should be proven may well vary with the model of criminalization, we will distinguish between models of abstract endangerment (A), concrete endangerment (B) and serious pollution (C). We will deal separately with punishment on the basis of vague norms (D).

---


3. MODELS OF ENVIRONMENTAL CRIMINAL LAW

3.1. Model A: Abstract Endangerment

3.1.1. Features of this Model

The notion of abstract endangerment refers to the fact that offences following this model do not usually punish environmental pollution directly. In this model the criminal law is an addition to an existing system of administrative decisions on the level and quality of emissions into the environment. Indeed, most systems of administrative law are based on administrative statutes regulating the conditions under which the administrative authorities can allow environmental pollution. Crucial within these administrative statutes are the so-called emission standards or emission limit values that fix the amount of a certain compound that can be emitted. These emission limit values can be laid down in general legislation, which is widely applicable to the whole industry; they can also be specific to a certain branch of industry or, as is usually the case, they can be laid down in individual licences. A combination of the three systems can be found as well.\(^9\) Within this system the criminal law usually applies only to enforce administrative decisions that are taken. A distinction can indeed be made between a dependency upon general administrative rules and principles (Verwaltungsrechtsakzessoriete) and the dependency upon individual decisions of administrative agencies (Verwaltungsakzessoriete).\(^10\)

The way in which criminal protection is provided is that it is usually found at the end of an administrative statute in a provision stating that everyone who violates the provisions of the act or the regulations enacted on the basis of the act shall be punished with a specified sanction. In some cases it specifically states that anyone who operates without a licence or violates licence conditions is criminally liable under the specific provision.

Examples of this model of legislation can be found in almost all systems of environmental law that are based on administrative law. That is the case in almost all western countries. In addition to the example of the Belgian 'Oppervlakte waterenwet' (Surface Water Protection Act) we can also refer to the Dutch 'Wet Economische Delicten' (Economic Crimes Act) which provides in Article 1a for a long list of environmental statutes that are all brought under the application of the Economic Crimes Act.\(^11\) The specific environmental statute then usually mentions in one of the final provisions that violations of the (administrative) provisions of the specific statute shall be punished under the Economic Crimes Act.

---

9. For instance in the system of the 1971 Belgian Surface Water Protection Act a subsequent 1976 Royal Decree laid down general emission limits; but specific Royal Decrees could set separate emission limits for certain branches of industry; in addition the administrative authority was empowered to set specific emission limit values within the individual licence; see on this system Goethals, E., 'Handhavingsproblemen in het milieurecht', Rechtspraktijk en Milieubescherming (Antwerp 1991) pp. 87-92.


3.1.2. What Values are Protected by this Model?

There has been some debate on whether or not this model is directed at protecting environmental values. To some extent one could indeed argue that the only value that is protected by such provisions, is the interest of the administrative authority in the proper enforcement of environmental law.12 However, it is now more widely accepted that as such these administrative statutes, especially insofar as they lay down emission limit values, are also directed at the protection of the environment. Therefore a criminal provision punishing a violation of these administrative rules also aims at the protection of the environment, albeit in an indirect way. Thus it is now usually held that e.g. the criminal provision punishing anyone who operates a chemical plant without a licence is also directed at protecting ecological values in an indirect way.13 Indeed, operating such a plant without a licence might endanger the protected interest, being a clean environment. However, since the criminal law applies irrespective of any specific damage or threat of harm to the environment, these provisions punish the abstract endangerment of the environment.14 Although the goal of the criminal law provision can indirectly be the protection of the environment, this is not clear from the way these provisions are formulated and operate. Indeed, the criminal law applies as soon as the administrative provision (e.g. in the form of an emission limit in a licence) has been violated, whether or not this causes harm to the environment.

3.1.3. Limits of Criminal Liability

3.1.3.1. Who Determines the Limits?

The first question that arises is what authority has the power to determine what the scope of the criminal liability under this model will be. Obviously, the institutions that come to mind to fulfil this task are the legislator, the administrative authorities and the judiciary. In most cases the legislator laid down the scope of the sanction and granted authority to an administrative agency to set emission limits. In that case, the power to set the specific conditions of criminal liability is delegated by the legislator to the administrative agency. In some cases, however, emission limits are set at the level of the legislator. The greater the power of discretion of the administrative authority, the greater the power of the administrative agency to fix the conditions of criminal liability.15

At first sight one would have the impression that the power of the judge to determine the scope of criminal liability is relatively limited within this model.16 Indeed, it seems that all the judiciary has to do is to verify whether e.g. the conditions laid down in a licence were

15. One could also think of general principles or rules that guide the behaviour of the licensee and are laid down either by the legislator or by the executive. For reasons of simplicity, we now focus mainly on emission limits, since these most clearly show the consequences of the administrative dependency.
complied with by the licensee. However, the power of the administrative agency to set the conditions of the licence is limited. These limitations are found first of all in the statutory framework that determines the scope of discretion of the administrative agencies; secondly, in general principles of a fair administrative procedure which limit the power of the agency to set licence conditions. The power of the legislator is also bound e.g. by constitutional constraints and by international conventions. As a result, even within this model where there is a large degree of dependency on prior administrative decisions there is still scope for the judiciary in determining the limits of criminal liability through control of the administrative act that was allegedly violated.\textsuperscript{17} The scope and contents of this judicial control will obviously differ between the legal systems. For instance, in some legal systems the judiciary is allowed to test the constitutionality of statutes: this is not the case in other systems.\textsuperscript{18} But the control exercised by the Criminal Court usually at least extends to administrative acts such as environmental licences.\textsuperscript{19}

Also in legal practice this task of the judiciary has great importance. If a suspect is prosecuted for an alleged violation of licence conditions it will often be argued by the defendant that the licence conditions are void, either because they did not correspond with the statutory framework or because they violated general principles guaranteeing a fair administrative procedure. This shows that although the task of the judiciary in determining the scope of criminal liability is formally relatively limited under this model, the possibility of judicial control still allows for an active role of the Criminal Court in defining the scope of criminal liability.\textsuperscript{20} But it is fair to state that if the control leads to the conclusion that the licence condition has been violated, very few other possibilities exist for the Criminal Court to limit the scope of criminal liability. Therefore the question arises how; in general, the limits of criminal liability are determined by the legislator or the administrative agency within the scope of this model. This relates to the classic question of whether this criminal provision was needed in the first place.

\textbf{3.1.3.2. Harmful Behaviour?}

The first question that should be asked is whether this model fits into the general criteria for the use of the criminal law and what possibilities there are to limit the scope of criminal liability.\textsuperscript{21} In that respect the question arises whether the specific criminal provision aims at providing protection against harm. This relates to theories of crime arguing that the criminal law should, in the first place, be a reaction to harm. As discussed above, in this model the occurrence of harm is not a prerequisite for criminal liability. Since it is the abstract endan-

\textsuperscript{17} On the Dutch systems of judicial control see De Roos, Th.A., Chapter 70 'Milieutrafrecht', supplement 48 (November 1992) in Corstens, G.J.M., Keyzer, N. and Sutorius, E.Ph.R., eds., Vademecum strafzaken (Arnhem 1983) 70.2.2. and for Belgium Goethals, E., o.c., Rechtspraktijk en Milieubescherming, pp. 92-96.

\textsuperscript{18} For an overview see Heringa, A.W. and Stroink, F.A.M., eds., Judicial Control (Antwerp 1995).

\textsuperscript{19} For a summary of the Dutch, Belgian and German system see Faure, M., 'De gevolgen van de "administratieve afhankelijkheid" van het milieutrafrecht: een inventarisatie van knelpunten', in Faure, M., Oudijk, J.C. and Schaffmeister, D., eds., Zorgen van heden. Oostellen over het milieutrafrecht in theorie en praktijk (Gouda Quint 1991) pp. 91-150.

\textsuperscript{20} For various approaches of judicial control by a Criminal Court in testing licence conditions, see Faure, M. and Oudijk, J., 'Die strafgerichtliche Überprüfung von Verwaltungsakten im Umweltrecht', Juristenzeitung (1994) pp. 86-91.

\textsuperscript{21} De Roos, Th.A., Strafbarestellung van economische delicten (Arnhem 1987).
ment that can lead to criminal liability, punishment can take place even if no harm occurs.\textsuperscript{22} Indeed, the operation of a hazardous installation without a licence leads to criminal liability whether or not the activity gave rise to damage in that case. As far as it is not the mere operation of a plant without a licence that is criminalized, but the violation of emission limits that is punished, one could argue that this equals the punishment of harmful behaviour as these standards are set to prevent harm.\textsuperscript{23} However, even if this may be the case, one should note that actual harm need not be proven. The criminal law applies as soon as the standard is violated, irrespective of whether or not harm to the environment results.

3.1.3.3. Legality Principle

Another question that could be asked to determine whether an appropriate use has been made of the criminal law is whether the well known legality principle has been respected.\textsuperscript{24} This refers to the fact that criminal liability must have a basis in a statutory provision. Equally important is the resulting \textit{lex certa} principle meaning that the conditions for criminal liability should be specified in detail \textit{ex ante} so that the prospective criminal knows exactly whether or not his behaviour will be subject to the criminal law.

In examining the concept of abstract endangerment in light of the legality principle, it could be criticized because in some cases the formal legislator only broadly determines the conditions for criminal liability, but leaves all the power to determine the detailed conditions to the executive and its administrative agencies.\textsuperscript{25} One could argue that in that case the conditions for criminal liability are not laid down by the legislator in a Statute, although most constitutional- and administrative lawyers would agree that parliament can empower the executive to provide detailed rules in administrative regulations or even in individual licences. As long as the legislator broadly defines the framework within which the executive has to operate there should not be any problem;\textsuperscript{26} obviously all administrative regulations concerning the environment cannot be provided for in Statutes. However, it seems problematic that in some cases the legislator leaves all the powers to determine the conditions for criminal liability to the executive.\textsuperscript{27} This leads to the problem that parliament only determines a punishment without having any idea as to what activities this criminal liability shall extend.\textsuperscript{28}

As far as the \textit{lex certa} principle is concerned it has often been argued that this model of ab-


\textsuperscript{23} If one accepts the idea that an emission limit protects the environment against harm, a criminal provision punishing a violation of this standard could be seen as a 'concrete endangerment' type-provision (see B). However, in that case the capacity to endanger will be an essential component of the criminal provision, which is not the case here.

\textsuperscript{24} See resolution 6 of the XV\textsuperscript{th} International Congress of penal law 'Consistent with the principle of legality, there should be certainty in the definition of crimes against the environment' \textit{International Review of Penal Law} (1995) p. 50.

\textsuperscript{25} This criticism is referred to in the German legal doctrine as the 'Selbstentmachtung des Strafgesetzeigers' (Heine, G., o.c., \textit{Österreichische Juristen Zeitschrift} (1991) p. 372 and Schall, H., \textit{l.c.}, 1266). See also Roef, D., o.c., \textit{Recht en Kritiek} (1995) p. 488.

\textsuperscript{26} So Waling, C., \textit{Het materiële milieustrafrecht}, pp. 58-59.

\textsuperscript{27} Compare Nijboer, J.F., \textit{De doolhof van de Nederlandse strafwetgeving} (Groningen 1987) pp. 124-127.

strict endangerment has the major advantage that it is extremely clear *ex ante* for the parties involved what the scope of criminal liability is. As far as abstract endangerment indeed refers to clear administrative rules, like a prohibition to operate a plant without a licence or licence conditions setting emission limits in principle the scope of criminal liability should be clear from the outset. The *lex certa* principle will only be violated if very vague conditions are used or if it is unclear whether a specific substance is covered by a specific parameter in the licence.

3.1.3.4. Guilt

A further criterion to determine the limit of criminal liability is the principle of guilt. Are there special requirements as far as the subjective element to the crime is concerned? In most cases one can note that the legal system usually considers the offences falling under this model as offences of an administrative nature, not requiring specific conditions of intent. Although most countries formally still reject the idea of strict criminal liability in practice there are usually no specific statutory conditions with respect to the intent or guilt necessary to be criminally liable. In that case the general principles will apply, which will obviously differ in every legal system. However, it seems fair to state that in most systems even reckless or negligent behaviour can lead to criminal liability for e.g. violation of licence conditions. For example, in Belgium it is accepted that there is criminal liability as soon as no grounds of excuse or justification apply. Since there are usually no specific statutory or jurisprudential requirements of guilt related to these abstract endangerment provisions the scope for criminal liability is potentially relatively large. Under the Dutch Economic Crimes Act a distinction is made between violations which are committed negligently or intentionally. This distinction leads to a different qualification of the crime and thus to a different sanction.


30. We will discuss this problem in model D. This can lead the court to hold a provision in violation with the legality principle, see e.g. Criminal Court Breda, 1 October 1985, *Nederlandse Jurisprudentie* (1986) p. 114 and Mulder, G.E., *Vage Namen, Naar eer en geweten. Liber Amicorum J. Remmelink* (Amsterdam 1987) pp. 409-427 as well as De Roos, Th.A., o.c., *Vademecum strafstrafken*, 70.2.4.

31. This problem arose e.g. in the well-known Antwerp Petrochin case where the defence argued that the emissions of benzene were allowed up to 25 mg/l since the permit contained permission to emit 25 mg/l of non-polar hydrocarbon into the surface waters. Since benzene is a non-polar hydrocarbon it was argued that the emissions were allowed under the permit. Nevertheless the directors of the firm were prosecuted for emitting the benzene. The case was never decided with respect to that particular point since all defendants were acquitted by the Antwerp Court of Appeals because of a lack of personal criminal liability, Belgian law not accepting the concept of criminal liability of the corporation (see Antwerp Court of Appeals, 24 April 1992, *Tijdschrift voor Milieurecht* (1992) p. 17, with case notes by Deruyck, Bloch and Pallemaerts.


35. De Roos, Th.A., o.c., *Vademecum milieustrafken*, 70.2.9.

European Journal of Crime, 1995 - 4
Criminal Law and Criminal Justice
323
3.1.3.5. Subsidiarity

Another test is the well known subsidiarity principle.36 Within this context it refers to the question of whether criminal liability is needed to reach the goals set. Without going into too much detail in that respect it could be argued that in many cases administrative sanctions such as e.g. administrative fines or injunctions would be adequate.37 In this respect we should realize that administrative fines can also be criminal sanctions in the sense of Articles 6 EVRM and 14 IVBPR. In that case all the guarantees of 6 EVRM and 14 IVBPR should be respected.38 However, according to the economic theory of crime, in some cases a relatively large sanction might be needed to outweigh the low probability of detection of environmental crimes.39 Given the insolvency problem, non-monetary sanctions might also be needed if the potential magnitude of the administrative fee would outweigh the individual wealth of the pollutor.40 For these and other reasons, deterrent, possibly non-monetary sanctions, might be needed, which may justify the need for the criminal sanction.

3.1.3.6. Proportionality

The related proportionality principle relates to whether the criminal provision provides for a balanced relationship between the potential harm and the sanction that can be applied in case of a violation. Given the fact that abstract endangerment means that the criminal law will already intervene in case of an abstract threat to the environment, even in the absence of specific harm and given the fact that through the absence of a statutory requirement of guilt the scope of criminal liability is potentially relatively large, one would expect a relatively low sanction to apply to criminal provisions falling under this model. The problem is, however, that in many legal systems, relatively high prison sanctions apply to the violation of administrative values. Moreover, there are some examples of Belgian statutes where the violation of administrative values is punished more severely than the pollution itself.41 Finally it should

36. See also Roef, D., o.c., Recht en Kritiek, pp. 482-485.
37. This point is equally made in resolution 7 of the XV International Congress of penal law that indicates that for non-observance of administrative and regulatory standards sanctions should not include deprivations of liberty. In addition resolution 11 stipulates that criminal sanctions should be utilized only when civil and administrative sanctions and remedies are inappropriate or ineffective to deal with particular offences against the environment (International Review of Penal Law (1995) p. 50).
41. The Walloon decrees on surface water protection and waste punished the emission of waste water without a licence with a prison sentence of 8 days to 6 months and/or a fine of 26,000 to 500,000 Belgian francs (Article 49 of the Walloon Decree of 7 October 1985), whereas the resistance to controls by a civil servant was threatened with a prison sentence of 6 months to 3 years and/or a fine of 100 -10,000 Belgian francs (Article 51).
also be noted that in some cases the violation of regulatory or licence conditions is punished in the same criminal provision, with the same criminal sanction as the pollution itself.42

3.1.3.7. Effectiveness

A final criterion that is sometimes used to test the usefulness of a specific provision is an effectiveness-test. Can the criminal provision lead to the result it is aimed at? This effectiveness question relates more particularly to whether the specific provision can effectively protect ecological values. This is, in addition, related to the so-called specificity principle, which questions whether the criminal provision is specific enough to meet its aim and can avoid any possible undesirable side effects. To a large extent this question can only be answered when one looks in detail at the specific administrative rules that are enforced.

With respect to the effectiveness we can refer to the discussion above where it was stated that these provisions do not aim at the direct protection of environmental values. Obviously the effectiveness will, to a large extent, also relate to the possibility of proving the violation of a certain provision in court. We will now focus mainly on the question whether the provisions falling under this model are, in principle, able to protect ecological values. They are effective in the sense that, at first glance it seems easy to see e.g. whether an emission limit has been violated. On the other hand, since they do not directly aim at the protection of the environment they can be ‘ineffective’ in the sense that on the one hand criminal liability will be applied even if no environmental damage has occurred (which is essential in a model of abstract endangerment), but on the other hand as long as no administrative rule has been violated no penalty will apply even if substantial environmental harm occurs.43

This disadvantage became apparent in a famous Antwerp case against the Bayer Company. Some employees of Bayer were prosecuted before the Antwerp Criminal Court for having emitted waste water without a licence. It concerned emissions of titanium dioxide into the surface waters. There was no valid licence and the company was therefore prosecuted for violating the prohibition to emit waste water without a licence. The court, however, held that Bayer was not to blame for the fact that there was no licence, this was due to administrative mistakes. Therefore the employees of Bayer were acquitted, without even considering the question of whether or not the emissions from Bayer were illegal or pollutant in nature.44 The court decision has been heavily criticized but it clearly shows a major drawback of a legal system that bases its environmental protection in the criminal law merely on the violation of administrative rules. If the system is only based on a violation of administrative rules there will be no environmental protection from the criminal law if, for whatever reason, an administrative violation cannot be proven and environmental pollution nevertheless results.45

Obviously, one could think of solutions for such a justificative effect of the licence even within this abstract endangerment model. One can think of Article 1 b of the Dutch ‘Wet ver-

---

42. See for instance Article 41 of the old Belgian Surface Water Protection Act of 26 March 1971 that punished the resistance to the control with the same sanction as the violation of permit conditions and the emission of waste waters without a licence.

43. Nevertheless, one should be careful with this criticism. For instance, the operation of a nuclear power plant without a licence is criminalized since it abstractly endangers many (environmental and human) values. Nevertheless, it is hard to doubt the usefulness of such a provision; one cannot argue that this provision is ineffective, simply because it does not react to actual harm.

44. Court of Appeals of Antwerp, 7th Chamber, 6 April 1989, unpublished.

ontreiniging oppervlaktewateren' (Surface Water Pollution Act) that provides, as a result of the implementation of certain EC directives that even with a licence the substances (e.g. cadmium and mercury) mentioned in Article 1, 1 may not be emitted if they exceed the emission limits laid down in Article 1a.46 However, although this rule limits the justificative effect of the licence (Verwalungsaktaszessorietät) it still relies upon (other) administrative rules to determine the scope of criminal liability (Verwaltungsrechtsakzessorietät).

3.1.4. What should be Proven?

In this respect we can once more refer to the discussion above. The criminal charge in this model usually relates to the fact that the defendant allegedly e.g. operated a plant without a licence, violated licence conditions or acted in contravention of other administrative rules. Thus, the criminal charge usually literally repeats the administrative act, e.g. the licence condition that has been violated. In that respect some problems may arise if the charge merely repeats the words of an administrative act or licence condition and omits to state specific facts that show that the defendant has violated his licence. Most legal systems require that the charge contains specific facts and not just the wordings of a criminal provision or licence condition. The Dutch 'Wetboek van Strafvordering' (Code of Criminal Procedure) specifically states in Article 261, and related jurisprudence, that the charge needs to contain facts.47 Belgian case law also accepts as a consequence of Article 6, 3 ECHR that the defendant should be informed of the facts of the case brought against him. This has led to the quashing of several charges in many famous Belgian environmental cases where the prosecutor had merely charged the defendant(s) with the violation of certain licence conditions without reference to the specific facts that gave rise to this violation.48

Obviously this requirement that the defendant should be charged with specific facts has its importance for the law of evidence as well. Usually, the specific facts are the elements that have to be proven by the Public Prosecutor. Indeed, according to this model a charge may well read e.g. 'having violated condition x of the licence of ... prohibiting any emission of waste water with an pH below 6.5 and higher than 9, punished by the Surface Water Protection Act of 26 March 1971, the defendant having emitted waste water at Antwerp on 3 December 1995 with a pH of 3'.

This shows why, within this model, the problem of proof is relatively limited. All the Public Prosecutor has to do is to show that the waste water indeed had a pH of 3. There is no need to prove that this was done illegally, knowingly or intentionally, nor need it be proven that this emission led to a reduction in the quality of the surface water. Therefore, the problem is limited in the sense that usually no problems of interpretation arise; problems can obviously arise in how to prove that the waste water indeed had a pH of 3.

46. De Roos, Th.A., o.c., Vademecum strafzaken, 70.4.1.2.
48. This caused an arquial in the famous Amoco Fina Case (see Court of Appeals of Antwerp, 26 March 1993, Tijdschrift voor Milieurecht (1993) p. 239; recently also a major part of the charges where declared void in the Mellery case (Court of Appeals of Antwerp, 10th Chamber, 23 June 1995, Tijdschrift voor Milieurecht (1995)).
3.1.5. Method of Proof

After having illustrated that only the violation of the administrative rule needs to be proven, the question now arises how this evidence is collected. Most environmental statutes now provide detailed procedures that must be followed when samples of e.g. solid waste, air emissions or waste water are taken.49 Usually the authority which has to take these samples (usually civil servants of administrative agencies) states, how many samples should be taken and under what conditions.50 Some statutes also contain provisions aimed at protecting the rights of defence. Usually one sample is handed over to the defendant to give him the chance to seek a second opinion. The judge will basically judge whether or not it can be proven e.g. that the pH of the waste water in the specific case was 3 on the basis of the results of the analysis of the sample taken by a forensic laboratory.

Again, it shows that, on the one hand, the model is clear and simple: the judge can rely heavily on information provided by a technical expert or administrative agency. Problems can only arise if e.g. a defence expert would argue that in the other sample the pH wasn’t 3 but 7. But even in that case the judge either has to choose which one of the two experts he will believe or, if even a third sample was taken and it is still technically possible, the judge can order a third expert to determine whether or not the pH was 3. The bottomline is that the whole technical discussion will relate (only) to the technical question whether or not the pH was indeed 3, as was alleged in the criminal charge. The question will not be asked whether this pH of 3 does or does not constitute a threat to the protected value: the quality of the surface water.51

3.1.6. The Role of the Various Parties

One could state that this model makes it relatively easy for the Public Prosecutor, who can rely heavily on expert opinions gathered during the preliminary procedure by an expert and/or the administrative agency. The discussion of the evidence will only focus on the quality of the sample and its analysis (e.g. on the question of whether the statutory conditions were met) and this is where the defence attorneys will concentrate their attention. This also limits the task of the judge who merely has to verify whether, according to the applicable law of evidence, the Public Prosecutor can show that the administrative rule was violated in the way described in the criminal charge. To make this judgment he can rely heavily upon the

49. Sometimes problems arise when administrative law e.g. the licence, provides that this standard need not be followed in all cases but is merely an average. This need will bring about the need to take samples over a larger period of time to prove that the specific licence condition has nevertheless been violated, e.g. because an average pH was not between 6.5 and 9.


technical information provided by the prosecutor. Hence, his ‘judging’ function is limited to a choice between conflicting expert-opinions, a point on which he might have relatively little information. Here we can refer to Hart’s warning against ‘mechanical’ jurisprudence. The substantial disadvantage of this model, how unavoidably necessary it may be in practice, is that it does not focus on the direct protection of the environment and therefore also seriously limits the task of the judge in providing this protection. This model makes the judge a slave of the administrative authority and its experts. This does, however, not necessarily mean that this model should be avoided. The control in this model is provided for in a more procedural way (e.g. by allowing the countercheck).

3.2. Model B: Concrete Endangerment

3.2.1. Features of this Model

Concrete endangerment refers to the fact that in this case some kind of a violation of environmental values by posing a concrete threat to the environment is a prerequisite for criminal liability. But in this case, unlike in model A, a mere abstract danger that e.g. the illegal operation of a plant might cause danger to the environment is too abstract and therefore insufficient for criminal liability. Usually at least an emission is required. This can indeed lead to concrete danger to the environment although usually the provisions falling under this model do not require that actual harm be proven as well. Usually the threat of harm is sufficient.

In addition to the requirement of causing concrete danger to the environment these provisions usually only lead to criminal liability if a second condition is met, being that this emission takes place illegally. In model A all that need be shown is that the act violated administrative rules. In this case the emission or pollution that can pose a threat needs to be proven. However, as long as the administrative rules are followed, usually no criminal liability will follow since the act will not be considered illegal. This will be the major difference with the model C, to be discussed below, in which criminal liability can occur even if administrative requirements were formally met. The major difference with model A is also that problems such as the one in the Bayer case can be avoided with a criminal provision under B. Indeed, even if there is no administrative regulatory framework that has been violated criminal liability can apply under B since the emission can still be illegal, whereas in that case no criminal liability would arise under a traditional model of abstract endangerment merely aimed at the enforcement of existing administrative decisions.

Examples of this model can be found e.g. in the Dutch Article 173a and 173b of the ‘Wetboek van Strafrecht’ (Penal Code), the German § 324 of the ‘Strafgesetzbuch’ (StGB) (Criminal Code) and Belgian case law concerning Article 2 of the Surface Water Protection

52. In fact, by the agency. Once more the ‘administrative dependency’ shows its importance.
How to Punish Environmental Pollution? Some Reflections

Act of 1971. Interestingly enough there has also been a historic evolution whereby the criminal protection of the environment began with criminal law provisions at the end of administrative acts (model A). A shift can be noted in the 1980s where e.g. Germany introduced a whole paragraph on environmental crimes in 1980 through its 18th 'Strafrechtsänderungsgesetz' and the Netherlands substantially changed its environmental law provisions in the Penal Code in 1989. Belgian case law punishing emissions into surface waters, even in the absence of administrative violations dates from the late 1980s. This model B can therefore in some ways be seen as the reaction of legislators and judges wishing to provide more direct protection of environmental values.

3.2.2. What Values are Protected by this Model?

With respect to the provisions falling under this model it is generally agreed that their aim is the protection of so-called 'ecological values'. This has been said in Dutch literature on the criminal provisions Articles 173a and 173b of the Dutch Penal Code. The same is true of § 324 of the German Criminal Code. This is said to protect the quality of the surface waters. The same can be said of Article 2 of the Belgian Surface Water Protection Act of 26 March 1971 that generally prohibits any emission of polluting substances into surface waters, with the exception of the emission of waste water in accordance with a licence that has been granted in accordance with the Surface Water Protection Act. As we just mentioned, this constitutes the major difference with model A. In model A the criminal law applies as soon as the administrative provision has been violated whereas in most provisions falling under this model, at least a threat to the environment (concrete endangerment) has to be proven. The exact contents of the evidence required will be discussed below.

56. One could argue about the precise characterization of this provision. In its statutory form it has been shaped as a 'Erfolgsdelikt' since a certain consequence, waterpollution, has to result. Through a broad interpretation in case law already the endangerment of the water quality leads to criminal liability. Heine even classifies § 324 as an abstract endangerment provision (Heine, G., 'Umweltschutz in der Bundesrepublik Deutschland: Entwicklung und gegenwärtiger Stand. Grundprobleme und Alternativen', in Eser, A. and Kaiser, G., eds., Dritter deutsch-sowjetischer Kolloquium über Strafrecht und Kriminologie (Baden-Baden 1987) p. 78. See on this classification problem also Rogall, K., 'Gegenwartsprobleme des Umweltstrafrechts', Festschrift der Rechtswissenschaftlichen Fakultät zur 600-Jahr-Feier der Universität zu Köln (1988) pp. 518-520, who calls Article 324 a 'potential endangerment' crime.


59. Nevertheless Waling argues that the provisions in the Dutch Penal Code only protect human life and health since emissions into the environment are only punishable under Article 173a and 173b if they cause a threat to public health or a danger for life (Waling, C., Het materiële milieustrafrecht, p. 15).

60. Tiedemann, K. and Kindhäuser, U., 'Umweltschutz – Bewährung oder Reform?', Neue Zeitschrift für Strafrecht (1988) pp. 337-338. There has been some debate on that issue in German legal doctrine since Rudolph held that § 324 German Criminal Code should only punish water-pollution in as far as it would endanger the economic use that could be made of water (Rudolph, H.-J., 'Primat des Strafrechts im Umweltschutz?', Neue Zeitschrift für Strafrecht (1984) p. 194). This point of view has, however, been rejected (Rogall, K., Lc., pp. 509-513).

61. On the functioning of Article 2 in more detail see Faure, M., Preadvies milieustrafrecht, p. 73.
3.2.3. Limits of Criminal Liability

3.2.3.1. Who Determines the Limits?

Again the question should be asked which authority has the power to determine the scope of criminal liability. In this case again the task of the legislator is obviously crucial in formulating the conditions of criminal liability. However, one should bear in mind that contrary to provisions falling under model A, the provisions under model B usually consist of two separate requirements. First, there is a requirement that either an emission took place or that a certain consequence resulted (e.g. changing the quality of the surface water). A second condition for criminal liability under this model is that the act has to be illegal. Obviously the authorities that have to decide upon how both aspects of the provisions will differ. The question whether or not the pollution or emission was illegal will, to a large extent, be decided by the legislator or by the executive through generally binding rules or through licence conditions. The general rule under these provisions is that as long as the conditions of a licence are complied with no criminal liability will follow. This was decided explicitly during the parliamentary proceedings in the Dutch Parliament which led to the statute of 19 January 1989 that substantially amended Articles 173a and 173b:

‘If someone acts in accordance with a licence, this act cannot be considered illegal and moreover: it is fair that the one who acts in accordance with the conditions of the administrative agency should not in addition have to worry about being confronted with a criminal prosecution. The government should show one face against its citizens. It is not acceptable that acts that are allowed by the administrative environmental authorities on the one hand should be prohibited by the Criminal Court on the other hand.’

Although one could criticize this limited view of the concept of illegality, it illustrates once again that the administrative authorities have a crucial influence in determining the scope of criminal liability, also within this model. However, just as was the case in model A, the judge will keep his power to exercise judicial control. He can indeed still test the licence and eventually find that the licence has been granted in violation of the statutory framework so that the emission/pollution can still be considered illegal. The new § 330d of the German Criminal Code also holds that if a licence has been obtained through corruption or collusion, the act will be considered as having been committed ‘without a licence’. As far as the other

62. These are called ‘Erflugdelikaten’ because a certain consequence must result.

63. ‘Wederechtelijk’ in the Dutch Articles 173a and 173b of the Penal Code; ‘Unbefugt’ in the German Article 324 of the Criminal Code and ‘zonder vergunning’ in the Belgian Article 2 of the Surface Water Protection Act.


67. The result is that in the Netherlands even emissions that cause a threat to public health or for human life cannot be punished if they took place in accordance with a licence (Waling, C., Het materiële milieuwetrecht, p. 54).


69. ‘Ein Handeln ohne Genehmigung ... ist auch ein Handeln auf Grund einer durch Drohung Bestechung oder Kollusion erwirkten ... Genehmigung’.
aspect of the model is concerned, the determination of whether or not there has been an
emission or pollution that fulfils the statutory requirements, the role of the judiciary becomes
important. In determining this aspect of the case there is more autonomy of the judiciary,
which is less dependent on information provided by an administrative agency or an expert
than in model A. The role of the judge in this model is therefore less ‘procedural’; there is
more scope for normative control of whether ecological values were endangered or not. This
will be discussed further below.

3.2.3.2. Harmful Behaviour?

This model also raises the question whether such offences meet the general criteria for the
use of the criminal law and what possibilities exist to limit the scope of criminal liability.
A question we addressed in that respect is whether the criminal provision aims at provid-
ing protection against harm. This is certainly more the case than in model A where abstract
endangerment could already give rise to criminal liability. In this case an emission is needed
which has the potential to cause harm. Depending upon the specific provision one examines
and the interpretation in case-law it is not usually required that a certain outcome has to result
(e.g. the changing of the quality of the surface water); the threat of such a change will usually
be sufficient. Nevertheless, in this case there is a clear link between the criminal liability and
the threat of harm.

3.2.3.3. Legality Principle

It is also interesting to examine whether the provisions falling under this model correspond to
the legality- and its resulting lex certa principle. As far as the legality principle is concerned
the model of concrete endangerment has the advantage that the formal legislator determines
the conditions for criminal liability.\textsuperscript{70} However, through the notion of ‘illegality’ as a condi-
tion for criminal liability, the executive is once again granted power to determine whether
there will be criminal liability in a specific case. In this respect we can refer to what was dis-
cussed above with respect to model A. As far as the lex certa principle is concerned, this
model of concrete endangerment might have the disadvantage that some notions can be rather
vague, e.g. if changing the quality of the surface waters is a prerequisite for criminal liability.

3.2.3.4. Guilt

As far as the guilt criterion is concerned it should be mentioned that the provisions in this
model usually require some element of subjectivity. For example in the Netherlands Articles
173a and 173b only apply if the emission took place knowingly, meaning that the defendant
knew or should have known that the emission could endanger public health.\textsuperscript{71}

In the Belgian Surface Water Protection Act, however, there is no special statutory require-

52.

\textsuperscript{71} De Roos, Th.A., o.c., *Vademecum strafzaken*, 70.3.6. Waling, however, argues that it is not the specific
emission, but the substance that should be capable of endangering human health (Waling, C., *Het materiële
milleustrafrecht*, pp. 28 and 48-53). In addition the defendant must have acted intentionally (Article 173a) or
negligently (Article 173b).
ment of intent. The same conditions of guilt apply to provisions falling under the abstract en-
dangerment and as to those under the concrete endangerment model.\textsuperscript{72} The latter seems to be
ture in Germany as well. Criminal liability under § 324 of the German Criminal Code is in-
deed possible even if the defendant only acted negligently.\textsuperscript{73}

3.2.3.5. Subsidiarity

With respect to the subsidiarity principle we can again refer to the discussion under model A.
It is unlikely that, if concrete endangerment to the environment is caused, an inadequate de-
gree of protection could be provided without the use of criminal law.

3.2.3.6. Proportionality

In light of the proportionality principle one would expect more severe sanctions in this case.
Indeed, the environmental value protected is concretely endangered and this has usually
taken place with some degree of intent. Therefore one would expect a different (and more
severe) punishment in such cases than in case of mere abstract endangerment. As we already
mentioned above this is indeed sometimes the case, but in many cases it is not. The Belgian
Surface Water Protection Act e.g. punishes with the same sanction the violation of admin-
istrative interests, the violation of licence conditions and the emission of waste water into sur-
face waters. The Dutch system punishes more severely direct environmental pollution under
Articles 173 and 173b,\textsuperscript{74} than the violations of environmental statutes brought under the
Economic Crimes Act.\textsuperscript{75} Also in the German system the pollution of surface waters is pun-
ished according to § 324 Criminal Code with a maximum prison sentence of 5 years whereas
a violation of the ‘Wasserhaushaltgesetz’ is only punished with an administrative fine.\textsuperscript{76}

3.2.3.7. Effectiveness

Finally the model of concrete endangerment should be subjected to an effectiveness test as
well. In that respect it can be mentioned that a model of concrete endangerment is obviously
more effective in protecting environmental interests than a model of abstract endangerment
that merely relies on the violation of administrative rules. The problem in the Bayer case
showed the major weakness of the model of abstract endangerment: if there are no admin-
istrative rules that are violated, environmental protection through the criminal law will gener-
ally fail. In that sense a model of concrete endangerment is certainly more effective since it

\textsuperscript{72} Note that according to resolution 9 of the XV\textsuperscript{th} International Congress of penal law the minimum mental
element in case of a concrete endangerment offence should be knowledge, intent, recklessness, or in cases
where serious consequences are at issue, culpable negligence (International Review of Penal Law (1995) p. 50).

\textsuperscript{73} See the discussion in Heine, G. and Meinberg, V., Empfehlen sich Änderungen im strafrechtlichen
Juristentag (München 1988) § 9 II A 2.

\textsuperscript{74} With 12 years imprisonment in case of intent (173a) and 1 or 2 years in case of negligence depending on
whether there is merely an endangerment or death as a consequence.

\textsuperscript{75} These crimes are usually punished with a fine which can, since a statutory change of 10 December 1992 now
amount to 100,000 Dutch guilders if the crime has been committed by a corporate entity (see Hendriks, L.E.M.,
‘De strafrechtelijke boete en de transactie in het milieurecht’, in Van Acht, R.J.J. and Uylenburg, R., eds.,

\textsuperscript{76} This is the so called ‘Bußgeld’, which is not a criminal sanction.
How to Punish Environmental Pollution? Some Reflections

aims more directly at the protection of ecological values by punishing emissions or pollution. An exception are Articles 173a and 173b of the Dutch Penal Code since the protection in that system is only activated if the threat to public health or human life can be proven.

Moreover, in general the link with prior administrative decisions is still relatively strong since these emissions or pollution will only lead to criminal liability if they were committed illegally. The effectiveness of provisions under this model will therefore inevitably depend upon the notion of illegality. If this is again limited to a violation of prior licence conditions (as was suggested in the Dutch explanatory memorandum) the weakness is that once more all emissions that take place under the cover of a licence will not be considered illegal and can therefore not lead to criminal liability. This can only be avoided if one accepts a broader interpretation of the notion of illegality which can, in turn, run counter to the legality principle. A possible way of increasing the effectiveness is the judicial control of the licence and the idea that the illegality should not be limited to a violation of prior licence conditions but can e.g. also consist of a violation of other administrative rules or general principles of environmental law such as BATNEEC or ALARA.

3.2.4. What should be Proven?

3.2.4.1. Emission and Illegality

The criminal charge under this model usually contains two elements. First, it will usually refer to an emission or pollution which the defendant allegedly has caused. Second, reference will be made to the fact that this has been done in an illegal way. Again we have to underline the statutory and jurisprudential duty to specify the facts that constitute this violation. This charge will in practice read e.g. ‘having emitted waste water into the surface waters without a licence’, the defendant having emitted waste water at Antwerp into the surface waters.

At first sight it seems that no specific problems of proof arise under this model. This might be true for the second part of the charge, being the fact that the emission/pollution took place illegally. But even there, in practice many problems may arise in relation to the justificative effect of the licence e.g. if the defendant met the conditions of his licence but the Public Prosecutor argues that he has nevertheless emitted in an illegal way. Problems of interpretation of the notion of illegality may then arise. However, in most cases case-law seems to interpret this notion of illegality as violating statutory or administrative duties or the conditions of a licence. In all of these cases of e.g. an emission without a licence, no conflict with administrative law will arise since the criminal charge will, in fact, enforce the administrative duty to apply for a licence before an emission takes place.

77. E.g. in Germany water pollution can be punished under § 324 Criminal Code even if this pollution did not constitute a violation of administrative rules.
78. Best Available Technology Not Entailing Excessive Costs.
79. As Low As Reasonably Achievable. Previously we have argued that these principles can be quite useful when testing the licence or in judging the scope of its justificative effect (Faure, M. and Ruegg, M., ‘Environmental Standards Setting through General Principles of Environmental Law’, in Faure, M., Vervaele, J. and Weale, A., Environmental Standards in the European Union in an Interdisciplinary Framework (Antwerpen 1994) pp. 39-60). However, given the legality principle in criminal law this is more problematic in criminal cases than in civil disputes.
80. Obviously the specific wordings of the indictment will depend upon the wordings of the statute under which the criminal case is brought. In German law it might read that the defendant has ‘unbefugt’ caused the water pollution.
How to Punish Environmental Pollution? Some Reflections

More problems of what exactly needs to be proven can arise with respect to the evidence of an emission, pollution or endangerment of the environment. Again, the specific formulation of the evidence will largely depend upon the specific legislation applicable. Nonetheless there are some similarities between the legal systems as to what has to be proven under the various provisions falling under this model of concrete endangerment. Several examples may illustrate this.

3.2.4.2. Example 1: Belgian Surface Water Protection Act

In Belgium the main instrument to protect surface water was, for a long time,81 the Surface Water Protection Act of 1971. Article 1 of the Act provided that its objective was to provide protection of surface waters against pollution. Pollution was defined in Article 1, 4 as any emission that can change the quality of the water. This reference to the notion of change led to the conclusion that the emission of clean drinking water into surface waters would not constitute a pollution since there is no negative change in the quality of the water. Furthermore, even the emission of polluted water into a heavily polluted river would not be considered pollution under this Act as long as there was no additional quality decrease.82 Article 2 contains the general prohibition from emitting any polluting substance into surface waters, with the exception of the emission of waste waters for which a licence has been granted in accordance with the Surface Water Protection Act. The violation of this Article 2 is punished under Article 41 of the same Statute. In addition Article 5 of the Act provides that any emission of waste water is subject to a licence. An emission made without a licence or a violation of licence conditions is equally prohibited under Article 41. If licence conditions are violated, no concrete endangerment needs to be proven. This is the abstract endangerment provision of model A. But if the defendant is charged with an emission of waste water without a licence the question of whether or not it need be shown that the emission could lead to a change of the quality of the receiving surface water could arise. Case-law generally concludes that this is not the case, because waste water can, in any case, only be emitted if there is a licence, as required by Article 5. In the absence of a licence, the emission of waste water will therefore be usually treated as a violation of Article 5 and, punished by Article 41. In response to the defence the Antwerp Criminal Court of first instance held that the waste water from its operation was relatively clean and contained no toxic or chemical compounds that "even if the waste water is free of toxic or chemical compounds, waste water originating in concrete mixers always falls under the scope of application of the Surface Water Protection Act".83

Is the same true if the defendant is not charged with emitting without a licence (Article 5) but with the illegal emission of a substance capable of changing the quality of the surface water, the concrete endangerment provision of Article 2? This Article is used in several cases where substances are emitted into surface waters that cannot be considered as waste water (and therefore cannot fall under the obligation to possess a licence according to Article 5). One can imagine skippers cleaning their cargo space with surface waters. In that case a charge will be brought under Article 2 and the Criminal Court will test whether the emission

81. Before the federalization of Belgium, powers were given to the regions to enact environmental legislation.
82. See Faure, M., Preuvene milieustrafrecht, p. 72.
that took place could have changed the quality of the receiving surface water. Skippers will often argue that the water e.g. in the Antwerp docks, is already extremely polluted so that their cleaning of the cargo compartment did not cause any additional pollution. In this case, contrary to a charge brought under Article 5, the Public Prosecutor has to prove resulting pollution. However, pollution in the definition of Article 1, 4 is the potential to change the quality of the surface waters. Therefore the courts usually correctly reject the assertions of skippers that no additional pollution can be proven. The mere fact that surface water is used to clean the cargo space indeed proves the fact that there was anything to clean in the first place and that therefore the substances that are emitted into the surface waters are likely to lead to additional pollution.\(^{84}\)

Recently a large Antwerp Bulk Terminal was also charged with a violation of Article 2 for having spilled coal in the water of the Antwerp docks. Again the Criminal Court examined, as it should under Article 2, whether the quality of the coal could lead to a reduction of the surface water quality.\(^ {85}\) Because the company concerned possessed a licence for the transhipment of the coal from ships to the docks it can be questioned in that case whether the emission was as such illegal. They might argue that a small spillage will be unavoidable in carrying out a licenced activity.

In some, rather exceptional, cases, the court however decides that an emission of certain substances, if they are considered more or less clean, does not constitute pollution in the sense of Article 1, 4 of the Surface Water Protection Act. A nice example is the case against Belgian Oil Service where it was argued:

‘the defendant has regularly skimmed oil from several companies and deposited it in several tanks; as a result of a "natural process" this oil was drained so that the dirty residues were contained and water of a more or less reasonable quality was emitted in the Leiegracht; the court holds that this act does not constitute a violation of the Surface Water Act’.\(^ {86}\)

The main conclusion to be drawn from these Belgian examples is that there is apparently a different burden of proof depending on the type of criminal provision used by the Public Prosecutor. If a criminal charge is brought under Article 5 (emission of waste water without a licence) all the Criminal Court has to examine is whether this was waste water and whether it was emitted into the surface waters. If, on the other hand, the defendant is charged with concrete endangerment of the surface waters under Article 2, the minimum that the Criminal Court has to examine is whether the substances that were emitted could result in the pollution of the environment. Such criminalization of the potential violation of environmental values corresponds with the notion of concrete endangerment.


\(^{85}\) Criminal Court of first instance of Antwerp, 25st Chamber, 11 October 1995 in case of Public Prosecutor vs. ABT, unpublished. All defendants launched an appeal against this judgment.

\(^{86}\) Criminal Court of first instance of Antwerp, 32st Chamber, 23 February 1988, in case Public Prosecutor vs. Lemmens and Belgian Oil Service, unpublished.
3.2.4.3. Example 2: § 324 German Criminal Code

Similar questions have arisen in German case-law with respect to § 324 Criminal Code. According to § 324 Criminal Code water pollution is punishable as soon as the pollution itself can be proven and the pollution took place in an illegal way ('unbefugt'). Again, German literature and case-law emphasizes the fact that mere abstract endangerment is not sufficient for criminal liability in this case; a certain consequence has to result. The pollution must amount to a negative change in the quality of the water, a formulation which is similar to the one found in the Belgian Surface Water Protection Act. German case-law has concluded that this change is to be considered as 'negative' as soon as the properties of the water are changed in a way that is not either positive or completely neutral. When deciding whether a certain change is negative or not, the propensity of the water as a vital element for plants and animals is taken into account. It is therefore not necessary to prove that there has been a negative change e.g. with respect to the economic use that could have been made of the water. This shows that § 324 German Criminal Code aims to protect the quality of the water as such. Even if a certain emission had no negative effect on the economic use of the water (e.g. for its use as drinking water) it can still be punished under § 324 Criminal Code as long as the emission cannot be considered positive or neutral with respect to its influence on plants or animals. German legal doctrine also holds that the negative influence on the self-cleaning propensity of the water also constitutes a negative change in the sense of § 324 Criminal Code. The removal of oxygen would therefore also be punishable under § 324 Criminal Code; there need not be an emission.

If, however, the emission is one of polluting substances then further evidence of a change in the receiving surface waters will not be necessary. A change is indeed only excluded in case the emitted substances have the same quality as the surface waters themselves. However, in some cases the quality of the emitted compounds will not be known. If so, samples will have to be taken of the surface waters themselves, upstream as well as downstream of the emission to show a negative effect and thus a change in the sense of § 324 German Criminal Code.

One can note that the German approach is very similar to the Belgian. Concrete endangerment suffices. Moreover, German case-law also makes a distinction between the emission of waste water which is always supposed to have a negative change on the quality of the surface water and the emission of other (unknown) substances in which case samples of the receiving surface water might have to be taken to be able to prove a negative effect.

89. See in this respect the discussion on the value-protected by § 324 German Criminal Code: III B 2.
3.2.4.4. Example 3: Articles 173a and 173b Dutch Penal Code

In both Dutch case-law and legal literature several questions have arisen concerning the evidence to be brought by the Public Prosecutor under the Articles 173a and 173b. There seems to be a distinct difference between the Belgian and German systems of criminal liability for concrete endangerment on the one hand and the Dutch system on the other hand. In addition to the fact that there needs to be an illegal emission of a substance in the soil, the air or surface waters, the defendant must have known or have had serious reasons to know that this emission would endanger public health or human life.91 This obviously has consequences for the way environmental pollution must be proven under Articles 173a and 173b. The emission as such has not given rise to much debate in case-law. Questions have, however, arisen on the requirement that the emission should endanger public health or human life. It is, however, agreed, that once more the endangerment is punished in this provision, meaning that criminal liability will arise if there is a fear that the emission will endanger public health.92 According to the explanatory memorandum it is sufficient if, at the time of the emission, there was a realistic chance that human health could have been affected by this emission.93 This brings about a whole discussion on what it means that public health may be endangered by a specific emission.94 Moreover, there is a subjective foreseeability requirement since the defendant must have known or should have known that his emission could have endangered human life or public health. This knowledge must exist at the time of the emission. These criteria make the task of the judge very difficult. He will have to take scientific knowledge into account to decide whether or not the defendant should have known that a certain emission could endanger public health.95 Obviously, the notion public health is itself rather vague and causes many interpretation problems. Understandably these provisions are not widely applied in Dutch legal practice.

As far as the notion of illegality is concerned, which also must be proven under Articles 173a and 173b, we can refer to the text of the explanatory memorandum quoted above, that stated that as long as the conditions of a licence are adhered to no criminal liability should exist. Therefore, the illegality requirement will often be met by showing that the defendant acted in violation of a duty to possess a licence or in violation of the licence conditions.96 Some authors, however, argued that the notion of illegality should be interpreted more widely as ‘acting in violation of environmental law’. If the case-law goes in that direction even emissions that are in accordance with administrative licences could result in criminal

---

91. Precisely because the endangerment of public health or human life are a prerequisite for criminal liability. Waling holds that Articles 173a and 173b only protect human health and not ecological values (Waling, C., Het materiële milieulag, p. 15).
92. It is therefore not necessary to prove that persons actually suffered harm (De Roos, Th.A., o.c., Vademecum Strafzaken, 19.3.3 and see Heine, G. and Waling, C., ‘Die Durchsetzung des Umweltstreitsrechts in den Niederlanden’, Juristische Rundschau (1989) p. 405).
93. See De Roos, Th.A., o.c., Vademecum strafzaken, 19.3.4.
94. Since this proof of endangerment will be largely based upon bio-chemical standards (see Nijholt, J.F., o.c., in Zorgen van heden, 69), once more a dependency on scientific knowledge is reached as was the case in model A.
liability under Articles 173a or 173b if these emissions are otherwise to be considered il-
legal.97

3.2.5. Method of Proof

There is a major difference between the methods of proof under the abstract endangerment
model (A) and under model (B). In the abstract endangerment model a charge is usually
brought for having violated an emission limit set in a licence. In that case the judge will rely
to a large extent on information provided by a technical expert or an administrative agency.
In this case, depending on the various elements that need to be proven under the provisions
discussed, the influence of technical expertise will be great, but there seems to be more room
for independent judgment of the facts by the Criminal Court and for allowing other methods
of proof to be used. If the discussion is limited to whether or not the waste water had a pH of
3, little can be done with e.g. eyewitness testimony. Depending upon the way the charge is
formulated there may be some room for other evidence in this model. This can be illustrated
by referring once more to the Belgian Surface Water Protection Act of 1971. If a charge is
brought under Article 5 (emission of waste water without a licence) a Public Prosecutor will
only have to prove that waste water was emitted and that no licence was obtained. Technical
information on the quality of the waste water is not necessary since the emission of waste
water always requires a licence. The Belgian Cour de Cassation held in several judgments
that although the Belgian Surface Water Protection Act regulates in detail how samples
should be taken to prove a violation of licence conditions, this does not exclude other forms
of evidence such as the testimony of an expert witness.98 The Criminal Court of Hasselt even
accepted eyewitness testimony as evidence of the fact that waste water had a temperature
higher than 25°C Celsius.99 A witness had declared to have seen that the water was steaming,
even in warm weather. The Criminal Court of Hasselt found this to be sufficient evidence of
the fact that the waste water exceeded 25°C Celsius.100 These rather doubtful methods of proof
sometimes do lead to an acquittal. When a ‘dockmaster’, who was not a civil servant of the
water protection agency, had taken a sample in a bucket, the results of the analysis where not
considered conclusive for a conviction.101 Both of these cases concerned whether licence
conditions were violated; there the use of eyewitness testimony seems highly doubtful. This
is, however, different if one merely needs to prove that waste water was emitted. In that re-
spect the Public Prosecutor has many more possibilities to provide proof of emission of
waste water (without a licence) than technical expertise on the contents of the waste water by
e.g. an administrative agency.102

As we have shown above, the question of proof is different if the Public Prosecutor
whishes to use Article 2. In that case he needs to show that the act could have lead to a

97. See Haentjens, R.C.P., ‘De bedreiging der samenleving door aantasting van het natuurlijk milieu en het
98. Cour de Cassation, 10 April 1979, Arresten van het Hof van Cassatie (1978-79) p. 953. See in that respect also
99. Which would violate the conditions of the licence.
100. Criminal Court of Hasselt, 18 April 1972, Rechtskundig Weekblad (1972-73) p. 775.
1284-1285.
change in the quality of the water. To do so, there must be some information on the quality of
the surface water in which the emission takes place. Moreover, if Article 2 is used in case of
an emission of waste water, samples of surface water will have to be taken, upstream and
downstream, to show a change in the quality of the surface water.103

Also in Germany Tiedemann argues that to show the potential for a negative change of the
surface water it is often necessary to compare samples upstream and downstream of the ac-
tivity in order to analyze whether there has indeed been a negative impact.104 In some cases,
the Criminal Court will simply rely on data on the polluting propensities of some compounds
that are emitted into the surface waters in order to find that these compounds can have a ne-
gative impact on the quality of the surface waters. This can lead to criminal liability under
Article 2 of the Belgian Surface Water Protection Act. This was so in the case against Ant-
werp Bulk Terminal where the Court decided on the basis of the quality of the coal that was
spilled in the water of the Antwerp docks during a transhipment of coal, that there was a
potential change to the quality of the receiving surface water.105

The Dutch situation differs from the one in Belgium and Germany in that the Public Pros-
ecutor will have to show that the emission endangered human life or public health. This ob-
viously gives rise to the question of how proof of such endangering characteristics can be
provided. It is argued that the judge will have to base his conviction on scientific knowledge
provided by experts.106

3.2.6. The Role of the Various Parties

When looking at the roles of the various participants in a criminal trial, again the Public Pros-
ecutor can rely on prior evidence gathered during the preliminary procedure by an expert
and/or the administrative agency. However, in this case the question of evidence will not be
centered around the question whether or not a certain licence condition was violated. Since
the provisions falling under this model aim at protecting against concrete endangerment, the
Public Prosecutor will have to show that the act or omission of the defendant constituted con-
crete endangerment as described in the statutory provision. In doing so he might have to rely
on expert advice on the quality of the substances emitted or he might have to take samples
upstream and downstream to show that there has been a negative effect on the quality of sur-
face water. Therefore within this model there is also a more active role for the judge. Ob-
viously the Criminal Court will still rely on the information provided by the prosecutor, but
the question of whether or not there has been e.g. a negative change in the quality of the sur-
face water requires more ‘judging’ than a mere choice between conflicting expert opinions on
whether or not the pH of waste water was indeed 3. De Roos also stresses that since ‘endan-
germent’ is a normative concept, the experts can provide information on e.g. the effects of

103. This could be inferred from Articles 32 and 33 of the Belgian Royal Decree of 3 August 1976 that forced the
administrative agency to take samples upstream and downstream. These provisions have recently been
abrogated since the entering into force of the new Flemish decree on the environmental licence and its
implementing regulations. A similar provision can now be found in Article 62 of the so-called VLAREM I
regulations.
105. Criminal Court of first instance of Antwerp, 25th Chamber, 11 October 1995, also discussed above, III B 4 b.
certain substances on human health but the judge will ultimately decide whether this degree of endangerment is still socially acceptable.\textsuperscript{107}

In this case the provisions aim more directly at protection of the environment and therefore require a more active task of the judge to, on the one hand provide this protection, but on the other hand to analyze whether the limits of the criminal sanction are respected as well. Is there e.g. not a too broad interpretation of the notion of negative influence which would violate fundamental rights such as the \textit{lex certa} principle? Indeed, the provisions falling under this model allow for more interpretation than the violation of a mere technical provision prohibiting the emission of waste water with pH below 6.5 and above 9. Waling also stresses within the Dutch context that although the judge will have to rely on technical expertise to establish whether the emission posed a threat to public health or human life, he should critically examine the information provided to him and verify whether indeed, at the time of the emission, the defendant knew or should have known that there could be a causal link between the emission and the endangerment of public health. In that respect she even mentions that the judge should have an ‘iron discipline’ in critically verifying the technical information provided to him in order to establish whether this can indeed lead to a conviction under Article 173a or b of the Dutch Penal Code.\textsuperscript{108} There is, however, no evidence to be found in case law that this ‘iron discipline’ would also be followed in legal practice.

3.3. Model C: Serious Environmental Pollution

3.3.1. Features of this Model

The notion serious pollution refers to the fact that provisions of this model aim to provide protection against cases of very serious pollution. The main difference between this model and those discussed above is that the relationship between the criminal law and existing administrative decisions is now totally irrelevant. According to the provisions falling under this model serious environmental pollution can be punished even though the defendant met the conditions of his licence. These are therefore the cases where the veil of the famous dependency of the administrative law is pierced.

Examples of this model are still relatively rare. A classic example is § 330a of the German Criminal Code that punishes the endangerment of human life or health through the emission of toxic substances. In addition, in some legal systems it has been suggested in literature that in order to provide a truly autonomous protection of ecological values, serious attacks on the environment should be punishable even if these would be allowed under an administrative licence. Therefore e.g. in the Flemish region a proposal has been made by an Interuniversity Commission for the Reform of the Environmental Law in Flanders, to introduce a new article in a Decree on environmental policy that would punish cases of serious pollution irrespective of administrative law. This proposed Article 7.3.4 would punish anyone who emits substances into the water, soil or air who knew or should have known that these emissions pose concrete danger to human health.\textsuperscript{109} A similar tendency to criminalize serious environmental

\textsuperscript{107} De Roos, Th.A., \textit{o.c.}, \textit{Vademecum strafzaken}, 70.3.3.


\textsuperscript{109} See Article 7.3.4 Vooronwerp Decreet Milieubeleid (Brugge 1995) p. 82 and see Roef, D., \textit{o.c.}, \textit{Recht en Kritiek} (1995) p. 505.
pollution even though the conditions of the licence were followed, can be found in drafts of international documents. For instance in the June 1995 version of the Council of Europe Draft convention for the protection of the environment through criminal law, the signatory States agree to adopt measures to criminalize intentional discharges which cause or create a significant risk of death or serious injury to any person.\textsuperscript{110}

Moreover, one could examine provisions totally unrelated to environmental law or to emissions into the environment, that punish persons who cause bodily harm to another. Most Penal Codes have provisions punishing the causing of negligent or intentional injuries to another, unrelated to whether or not these injuries where caused through emissions into the environment. Again, in most legal systems these provisions still apply even if the defendant met the conditions of a licence.\textsuperscript{111} We will, in the remainder of this section, focus mainly on the first two examples since these provisions relate to an emission into the environment which can be punished even if the conditions of a licence were met. However, it should be noted that there is an international tendency to limit the justificative effect of a licence if the defendant knowingly caused serious harm to the environment.\textsuperscript{112}

3.3.2. What Values are Protected by this Model?

Although these provisions are discussed under the heading of serious pollution, the way these particular provisions are structured still make clear that they mainly protect human interests. Obviously, the legislator, wishing to treat very serious cases of pollution in a separate way and notwithstanding the issue of an administrative licence, will have to decide what the crucial criterion is to treat some cases of pollution as very serious ones. Merely punishing ‘serious’ pollution will be too vague and violate the \textit{lex certa} principle.\textsuperscript{113} Therefore the option chosen was to focus on emissions that would constitute a concrete endangerment to human life or health. The values protected in these provisions probably include the environment itself in as much as it focusses on emissions, but also certainly protect human health.\textsuperscript{114} Indeed, the provisions particularly focus on cases of pollution which are that serious that they pose a concrete threat to human health. It is therefore also held in e.g. German legal doctrine relating to § 330a Criminal Code that this provision aims at protecting human health.\textsuperscript{115}

3.3.3. Limits of Criminal Liability

3.3.3.1. Who Determines the Limits?

Probably the most important task in limiting criminal liability in these provisions lies with the legislator. It is indeed the legislator who has to decide in the first place under what spe-

\begin{footnotesize}
\begin{itemize}
\item 10. See Article 2a of the Draft Convention.
\item 13. Although the German Criminal Code provides for an example of a provision that punishes serious pollution with sufficient preciseness in § 330 Criminal Code.
\item 14. Although this can be doubted since the emissions are not punishable as long as they do not constitute concrete endangerment to human health.
\end{itemize}
\end{footnotesize}
cific conditions criminal liability can be extended to situations when the licence was adhered to. In this case the administrative authorities do not play a role at all, since crimes falling under this model are punishable even if the conditions of the licence are met. Since the notions used to define the seriousness of pollution may sometimes be rather vague, again there is an important task for the judge in deciding whether it is acceptable in the particular case to accept that criminal liability exists despite the fact that the defendant followed the conditions of an administrative licence. If the legislator requires e.g. concrete endangerment of human health or life, the judge will certainly have to rely heavily upon technical expertise on whether it is likely that the particular emission caused concrete endangerment to human health or life. In that respect we can refer to the discussion above of Articles 173a and 173b of the Dutch Penal Code where the endangerment of public health or human life is a prerequisite for criminal liability.

Note that the reason for extending criminal liability to situations in which the defendant followed the licence is that it is thought that an administrative licence can never justify concrete endangerment to human life or health. Therefore, the legal doctrine in Germany holds that § 330a Criminal Code complies with administrative law since the licence should not allow for such endangerment in the first place. A similar reason is given in respect of Flemish Article 7.3.4 where it is argued that a licence could never justify concrete endangerment of human life or health. It is remarkable that in the Netherlands the endangerment of public health or human life are prerequisites for the punishment of emissions according to Articles 173a and 173b of the Dutch Penal Code. However, these provisions still stick to the justificative effect of a licence. The emission is therefore only punishable if it took place illegally, meaning in violation of licence conditions. This leads to the odd situation that according to the Dutch law even the intentional concrete endangerment of public health or human life does not lead to criminal liability as long as the emissions that cause such endangerment are covered by a licence. The position of the Dutch legislator on that point has been criticized by legal doctrine.

3.3.3.2. Harmful Behaviour?

In the provisions falling under this model, harm is a prerequisite for criminal liability. Harm means not only an emission, but the endangerment of human health or life. Since this provision really aims to criminalize the endangerment to human health or life the use of the criminal law seems justified.

3.3.3.3. Legality Principle

The conditions for criminal liability are certainly fixed by the legislator. In addition, in this model there is no dependency on administrative law whatsoever. Illegality of the emission is no longer a prerequisite for the application of provisions falling under this model. The provisions falling under this model seem therefore to correspond with the legality principle in the sense that the legislator has defined the conditions under which criminal liability will arise.

118. Waling, C., Het materiële milieustrafrecht, p. 54.
How to Punish Environmental Pollution? Some Reflections

The question one could obviously ask is whether this increased criminal liability complies with the *lex certa* principle. This is, as was mentioned above, a classic problem if one wishes to find a way to punish more serious cases of environmental pollution with increased sanctions. The way this has apparently been solved is by referring to the concrete endangerment of human health or life. This obviously leaves the Criminal Court a lot of discretion and it will have to rely on technical expertise to establish whether a certain emission could indeed constitute concrete endangerment.

3.3.3.4. Guilt

Obviously on the subjective side of the crime specific conditions will have to be met. Indeed, in this case the criminal law applies even though the conditions of an administrative licence were met. This not only sets out specific requirements as far as the consequence of the emission is concerned (concrete endangerment of human health or life), but also supposes that the defendant acted knowingly. The proposed Flemish Article 7.3.4 is therefore only applicable if the defendant knew or should have known that his emission could have endangered human health or life. Obviously the notion ‘should have known’ can potentially lead to an extension of the scope of criminal liability. Including this notion seems however to be unavoidable. As the defendant could otherwise escape criminal liability by arguing that he did not know of harmful effects of the substances he was emitting. The crucial question is indeed whether the defendant, although he did not know, should have known of these effects. Although the judge might be cautious in too broad an interpretation of this notion, it is the omission of knowing the harmful effects of these substances that justifies criminal liability.119

The German § 330a requires an intentional emission. If, however, the endangerment was caused negligently, although the act was committed intentionally, the prison sentence will only be a maximum of 5 years (§ 330a III), whereas it can go up to 10 years if the endangerment is caused intentionally as well (§ 330a I).120

3.3.3.5. Subsidiarity

In that respect we can be short. There do not seem to be other legal instruments that could provide equally effective protection in case of concrete endangerment of human health or life as the criminal law. If the criminal law is to be used at all in protecting the environment against illegal emissions, this should certainly be the case if these emissions pose a concrete endangerment of human health or life.

3.3.3.6. Proportionality

Since these provisions focus on the more serious cases of environmental pollution (as far as the effects on human health are concerned) and have increased requirements on the subjec-

119. In the comment to the proposed Article 7.3.4 it is mentioned that precisely this foreseeability requirement with respect to harmful effects should have an important limiting (and therefore protective) effect (Faure, M., *o.c., Voorontwerp Decreet Milieubeleid*, pp. 769-770).
tive side of the crime, it seems justified that these crimes should be punished with more severe sanctions than the emissions that do not create such endangerment. This is indeed the case. As we just stated § 330a of the German Criminal Code provides for a prison sentence of either 5 years or 10 years depending on whether the endangerment was caused negligently or intentionally, whereas e.g. mere water pollution under § 324 German Criminal Code is only punishable with 5 years. The proposed Article 7.3.4 of the Flemish Decree contains a maximum prison sanction of 5 years\textsuperscript{121} whereas illegal emissions are normally only punishable with 2 or 3 years maximum depending on whether the defendant acted negligently or knowingly.\textsuperscript{122}

3.3.3.7. Effectiveness

Again the question should be asked whether the provisions falling under this model achieve their objective. The provisions are certainly effective in the sense that they apply even if the harmful emission was covered by a licence. The effectiveness could, however, be criticized from the point of view of the protection of ecological values. One could argue that since the increased sanction and the reduction in the administrative dependency of the criminal law only apply if human health or life is concretely endangered, this shows once more the anthropocentric (instead of ecological) focus of the environmental criminal law.\textsuperscript{123} On the other hand, it seems highly doubtful whether it would be possible to formulate cases of serious environmental pollution in such a way that this would comply with the \textit{lex certa} principle. Moreover, if the licence already lacked justiciable effect e.g. if animal life is endangered, this would considerably enlarge the scope of criminal liability.

The specific conditions for criminal liability under these provisions will obviously determine their effectiveness as well. For instance in Germany § 330a of the Criminal Code only applies in the case of a release of toxic substances; not in other cases of endangerment of human health or life. In general it seems useful to have a provision that focuses on the punishment of highly serious cases of environmental pollution that cause concrete endangerment to human health or life. The Dutch system that does not have such a provision and even allows for the justificative effect of the licence in case of intentional concrete endangerment of public health therefore seems rather ineffective.

3.3.4. What Should be Proven?

Again the criminal charge will be drafted in such a way as to fulfil the statutory requirements of the specific provision falling under this model. The criminal charge will therefore usually contain at least the fact that the defendant allegedly caused an emission or pollution (or in the case of § 330a German Criminal Code: released toxic substances into the environment). Secondly, reference will be made to the fact that this emission endangered human health or life.

---

\textsuperscript{121} Article 7.3.2, \textit{Vooronwerp Decreet Milieubeleid}.
\textsuperscript{122} Article 7.3.1, \textit{Vooronwerp Decreet Milieubeleid}.
\textsuperscript{123} It is, however questionable whether such a strict distinction between anthropocentric and ecological values can be made. In the recent ECHR Lopez-Ostra case environmental pollution was considered a human rights-violation (see Heringa, A.W., 'Private life and the Protection of the Environment', \textit{Maastricht Journal of European and Comparative Law} (1995) pp. 196-204).
How to Punish Environmental Pollution? Some Reflections

In that respect we can refer to the discussion above concerning Articles 173a and 173b of the Dutch Penal Code. Therefore it should be proven that the emission concretely endangered human health or life. Finally, the specific element of intent, required under the provision discussed must be proven as well. For the proposed Flemish Article 7.3.4 this means that it must be proven that the defendant knew or should have known of the negative consequences of the emission. There is no separate requirement that the endangering emission should be illegal.

3.3.5. Method of Proof

The methods that will be used to prove the violation of provisions falling under this model will be largely similar to the ones used to prove model B-crimes. Indeed, first an emission will have to be proven. Information on that point can be provided by e.g. a technical expert or an administrative agency. However, means of proof other than technical expertise can prove the emission as well. In that respect one could think of eyewitness testimony. The second element, being the endangerment of human health or life can be based on scientific knowledge provided by experts. But here, once more, we can refer to the Dutch discussion where it was stated that the judge should critically evaluate this information in order to establish his opinion on whether or not there is a causal link between the emission and the endangerment of human health or life.

Finally the Public Prosecutor must provide proof of the element of intent required under the statutory provision. Here again a variety of methods of proof can be used to show that the defendant knew or should have known that the emission could have endangered human health or life.

3.3.6. The Role of the Various Parties

To a large extent the Public Prosecutor can rely on the expertise gained during the preliminary procedure. To provide proof of an emission the Public Prosecutor will be able to rely on a wide variety of means of proof. In order to show endangerment he might rely more heavily on information provided by experts on the dangerous character of certain substances.

Obviously in this model, there is a lot of room for active participation of the judge. He will have an active role in, on the one hand, providing adequate protection against these serious cases of environmental pollution endangering human health. On the other hand, the limits of the criminal sanction should be respected as well. Indeed, criminal liability for environmental pollution although the conditions of licence were met is potentially very wide. Therefore the judge will have to critically assess the technical information provided to him in order to establish whether the emission fulfilled the statutory requirements of endangerment of human health and whether the specific requirement of intent was met.

---

124. See III B 4 d.
3.4. Model D: Vague Statutes

3.4.1. Features of this Model

In recent years we have seen that the practice of using vague norms which can be enforced in civil and administrative law has also been used in environmental criminal law. The vagueness of these norms results from the use of language which is inherently vague.\textsuperscript{125} The vagueness is further enhanced by the legal context itself, which requires that the legislative rules be general in nature.\textsuperscript{126} Because of this, a grey area is formed between what does and what does not fall within the norm.\textsuperscript{127} The larger this grey area is, the vaguer the norm will be. This is especially the case when the particular norm covers a large area and is, as a result, formulated in relatively vague terms. Often one can find these vague, abstract concepts in articles in which the main principle(s) of the particular regulation occur.

The reason which is often given by the legislative authorities and commentators for using vague norms is that they can serve as a safety net when specific norms in legislation are not fully effective.\textsuperscript{128} Furthermore, it has been claimed that the necessity of using such vague norms can give a signal to the legislative body, that they must regulate these cases in the future with more specific legislation.\textsuperscript{129} Another argument to justify the use of vague norms in legislation is that more specific rules are not always possible because the subject may be too complex or too rapidly changing to allow for specific legislation, although some kind of regulation is required.\textsuperscript{130} In addition it is sometimes claimed that the use of vague norms in legislation, engages the responsibility of people to protect the interest protected by the law. If the responsibility of the citizen laid down in the law can be enforced by sanctions when the vague norm has been violated, then this vague norm may have a preventive effect.\textsuperscript{131}

There are different ways in which vague norms can play a role in environmental criminal law. There are vague norms in Statutes and in executive regulations. Furthermore vague norms can also be used in licences. Use of vague norms in licences can be found in many

\textsuperscript{125} 'In all fields of experience, not only that of rules, there is a limit, inherent in the nature of language, to the guidance which general language can provide'; Hart, H.L.A., \textit{The Concept of Law}, p. 126.

\textsuperscript{126} See about the semantics and legal background of vague norms Klap, A.P., \textit{Vage normen in het bestuursrecht} (Zwolle 1994) pp 3-9.

\textsuperscript{127} '(...) in the case of legislation, as a general feature of human language; uncertainty at the borderline is the price to be paid for the use of general classifying terms in any form of communication concerning matters of fact' (Hart, H.L.A., \textit{The concept of law}, p. 128).


\textsuperscript{129} Commissie toezicht van wetgevingsprojecten, \textit{Advies van de commissie voor de toezicht van wetgevingsprojecten inzake zorgplichtbepalingen}, p. 6.

\textsuperscript{130} 'Sometimes the sphere to be legally controlled is recognized from the start as one in which the features of individual cases will vary so much in socially important but unpredictable respects, that uniform rules to be applied from case to case without further official direction cannot usefully be framed by the legislature in advance.' (Hart, H.L.A., \textit{The Concept of Law}, p. 131).

legal systems. The use of vague norms in the form of a statutory duty of care is increasingly important in Dutch environmental law. Article 2 of the ‘wet Milieu gevaarlijke stoffen’ (Environmentally Dangerous Substances Act\textsuperscript{132}) represents such a common duty of care. Article 3 paragraph 4, (previously paragraph 3) ‘Bestrijdingsmiddelenwet’ (Pesticides etc Act,\textsuperscript{133}) Article 13 (previously 14) ‘Wet bodembescherming’ (Protection of the Soil Act\textsuperscript{134}) and Article 10.3 ‘Wet milieubeheer, hoofdstuk afvalstoffen’ (Protection of the Environment Act, chapter waste products\textsuperscript{135}) also contain criminally enforceable duties of care. The emergence of these duties of care in environmental statutes seems to be to a large extent a typically Dutch development, which has caused a lot of discussion on this subject in the Netherlands. Since this may be a development that will be followed by other countries, the use of these vague norms should be discussed on an abstract level within model D.

The duty of care usually requires that, if one knows or could reasonably be expected to know that by one’s actions the environment (to which the particular statute applies) could be harmed, one should take all the measures that can reasonably be demanded in order to prevent danger or to limit or eliminate its consequences.

In addition there is another place where a duty of care in environmental law exists. The administrative authorities recognize the advantages of a safety net that can be formed by the duty of care and sometimes impose such a norm as a condition for granting a licence. This is possible in virtually all legal systems where administrative authorities can determine licence regulations. In this way there is a link between models A and D. Here too, it seems that it is more a matter of chance than a matter of policy by the administrative body whether a duty of care is included in a licence.

3.4.2. What Values are Protected by this Model?

In this model vague norms in case of a duty of care are made use of, which reflect the main principle or principles of the legislation concerned. Thus, in environmental law, the aspects of the environment with which the law is concerned, are directly protected by the vague norm. This does, however, not mean that every violation of this vague norm can or should be enforced directly through the criminal law.

Hart states that ‘it may be found best to defer the use of sanctions for violations until the administrative body has by regulation specified what, for a given industry, is to count as a "fair rate" or a "safe system".\textsuperscript{136} In the Netherlands sanctions for violations of a vague norm, i.e., Article 13 (previously Article 14) of the Protection of the Soil Act have, however, not been postponed until the administrative body has issued further regulations. The ‘Hoge Raad’ (Supreme Court) confirmed that, pending the issue of general administrative orders, the legis-

\textsuperscript{133} Acts from 12 July 1962, Staatsblad (1962) p. 283.
\textsuperscript{136} Hart, H.L.A., The Concept of Law, p. 131.
lator has created the possibility through this article of using sanctions against what can be considered as acts which threaten the soil.\textsuperscript{137}

Direct enforcement of the vague norm is therefore possible, within certain limits. For instance, when damage has been caused within the limits of a prior permission or exemption. The party in question can refer to this licence and, as long as he has acted within the limits of this licence, he cannot be prosecuted. If, not withstanding, prosecution takes place on the grounds of the vague norm, since the party concerned has violated the duty of care, he will be able to plead that there are grounds for exclusion.\textsuperscript{138} A licence generally maintains a justificative effect within this model.

3.4.3. Limits of Criminal Liability

3.4.3.1. Who Determines the Limits?

In contrast with model A, criminal responsibility is now not largely determined by the administrative authorities. With this kind of penalization the Public Prosecutor has his own responsibility, and he can act independently when the norms are violated. Whether the damage does or does not violate the norm will be determined by the Criminal Court. In this model, it is up to him to determine the borderline between criminal and non-criminal actions. He can, therefore, do this only on a case by case basis, and thus ex post.\textsuperscript{139}

The Criminal Court thus has a large degree of discretion. Judges are duty-bound to apply the relevant legal rules in every case. In interpreting these licences criminal judges are, as we have seen, tied to the administrative authorities. But they have a wider discretion in situations for which the rules are not clear. This is also true for the application of vague norms. They are guided by reference to persuasive and permissive sources of law, such as academic writing and foreign case-law. Moreover, they will take into account the entire system of the law and the place which the norm has in it. In this model the vague norm is therefore not directly determined by the administrative body. Indirectly this might be the case, when the norm is seen in the light of the administrative regulations to which it belongs. It is however possible that no clear answer will be found for a particular case.\textsuperscript{140}

\begin{flushleft}
\textsuperscript{137} Supreme Court (Criminal Chamber), 26 October 1993, \textit{Nederlandse Jurisprudentie} (1994) p. 99, also, \textit{Milieu en Recht}, 1994/2, nr. 22, with case note Tideman, Hendriks, L.E.M., o.c., \textit{Milieu en Recht} (1994) pp. 139-140. The ‘Afdeling Bestuursrechtspraak Raad van State’ (Department of administrative law of the Council of State) subscribes to this view and states that the competent body can also apply administrative enforcement measures such as the impondiment of a penalty against actions that cause soil pollution (Department of administrative law Council of State, 5 July 1994, \textit{Administratiefrechtelijke Beslissingen} (1994) p. 636, with case note F.C.M.A. Michiels).

\textsuperscript{138} See on this problem: De Roos, Th.A., o.c., \textit{Vademecum strafaken}, 70.2.2.

\textsuperscript{139} ‘... they may learn from a court only ex post facto when they have violated it, what, in terms of specific actions or forbearances, is the standard required of them. Where the decisions of the court on such matters are regarded as precedents, their specification of the variable standard is very like the exercise of delegated rulemaking power by an administrative body, though there are also obvious differences’ (Hart, H.L.A., \textit{The Concept of Law}, p. 132).

\textsuperscript{140} For these cases MacCormick states that ‘The judge must go beyond the law and (without sacrifice of impartiality) consult his own sense of moral and political rightness or equity and of social expediency in order to come to what seems to be the best decision on the problem in hand. At least for the parties to the case he partly makes the “law”, which he “applies”. And if the rule of recognition sets precedent as a binding source of law, he also makes law for the future by his own decision ...’ (MacCormick, N., \textit{H.L.A. Hart} (London 1981) pp. 125-126).
\end{flushleft}
3.4.3.2. Harmful Behaviour?

This model seems to be suitable for criminally charging a party with behaviour harmful to the environment. In many cases the vague norm will directly serve the interests of the environment.

But is behaviour harmful to the environment required by this model? Article 13 (previously Article 14) of the Dutch Protection of the Soil Act imposes on every citizen a duty of care for the soil. ‘Advocaat Generaal’ (Solicitor-General), Fokkens, stated that if anyone omits to take the necessary precautions which this article demands from him, but removes the waste after the pollution, he does not act in contravention of this article.¹⁴¹ The Supreme Court did not follow this argument in a subsequent judgment and stated that, if there is or has been actual pollution or damage to the soil, the party concerned is required by this article to limit this as much as possible or to eliminate it entirely. Fulfilling this duty does, however, not rule out the possibility of a conviction for violation of a duty of care.¹⁴² Permanent damage is therefore not required.

Hence, it seems sufficient if it can be proven that there was potentially harmful behaviour. There is no need for tangible evidence of pollution or damage, since the suspect is required to limit this as much as possible or to eliminate it. Moreover, even if someone has limited or eliminated damage to the soil, he can subsequently be charged with having violated the duty of care for the soil.

3.4.3.3. Legality Principle

The legality principle refers, as has been said before, to the fact that criminal liability must have a basis in a statutory provision. Equally important is the resulting *lex certa* principle meaning that the conditions for criminal liability should be specified in detail *ex ante* so that the suspect knows exactly whether or not his behaviour will be subject to the criminal law. In relation to this principle vague norms can pose problems. This will be the case when it is not clear to a citizen if his actions may be in violation of a criminal law.¹⁴³

As has been discussed, one reason for introducing vague concepts in legislation was that the legislator was not able to specify what is not permissible. This is because of the multiplicity and unmanageability of reality and because of the supposed unpredictability and speed of developments in the areas concerned. Therefore, in those cases more adequate and specific regulations are generally not possible. The inevitable result is that the legislator criminalizes behaviour that is not known *ex ante* in detail. One can then wonder if the legislator does not know the exact content of the criminal provision, how can we expect the citizen to know?¹⁴⁴ Therefore, these vague notions seem to conflict with the *lex certa* principle.

In provisions containing a care of duty the vagueness usually relates to the concept ‘rea-

---

¹⁴⁴ Obviously, one could reply that in the particular case of environmental pollution we are not dealing with an average citizen, but often with a corporation who might have better information on optimal measures to prevent environmental pollution than the government. This, however, is not an argument in favour of using open norms in criminal law, but possibly in favour of strict liability in tort.
How to Punish Environmental Pollution? Some Reflections

sonably' and the fact that the measures that are to be taken, or the prohibited actions, have not been specified. However, Dutch judges do not seem to encounter problems in applying these duty of care provisions. Obviously, in some cases it might be clear for a specific group that they violate the norm, since they clearly cause damage to the environment. In other cases, however, this is not so clear for the person involved. The judge will then have to determine the limits of the norm, as discussed under 3a, case by case, so ex post. This may conflict with the lex certa principle. Hendriks and Wöreitshofer are of the opinion that duty of care provisions are specified adequately in actual cases, because in these cases it is possible to determine objectively whether there is danger for the environment or whether measures had to be taken. They state that by determining these facts objectively and by linking this to the defendant there is a possibility of forbearance. According to them there is no conflict with the lex certa principle.

The Public Prosecutor brought a testcase so that the court could determine the duty of care laid down in a Statute. The testcase was about Article 14 (now 13) of the Protection of the Soil Act. In this case the Court of Amsterdam found that the duty of care had been violated. It was proven that the defendant had burnt electricity cables on a specific site and remnants of the fire, i.e., waste-materials, ended up on the soil. Because these remnants were polluted he could reasonably have expected that the soil would become polluted and he had not taken the preventative measures that could reasonably have been expected of him. This act was considered as proven and punishable under Article 14 (now 13) of the Protection of the Soil Act which directly puts a duty on all citizens. In this case it focuses on behaviour that results in serious pollution. An expert revealed that the burning of electricity cables is always very harmful to the soil, because of the plastic waste and heavy metals that are released.

With vague norms in the form of duty of care provisions in licences the situation is different. Waling points out that licences are not always clear and therefore there are no commonly known grounds for exemption. The result is that the Public Prosecutor is often confronted with licence-conditions which are unmanageable in a criminal case, because there is not enough clarity as to what is forbidden or required. In some licences there is a general duty of care created by an obligation to take all reasonably possible measures to prevent damage in using the licence i.e., to the administrative authorities or to third parties. However, these stipulations have, in some cases, been nullified by e.g. the Crown and by the Council of State because of their vagueness.

This can also happen in delegated legislation, as in a case against a doctor. He was charged with asking a fee which was not in accordance with the 'Wet tarieven gezondheidszorg' (Fees for health care Act). The fixing and approval of such a fee is delegated by the legislator to a Central Body for fees for health care. The doctor appealed against the summons, because

146. Hendriks, L.E.M., Techniek en normstelling in het milieustrafrecht, pp. 109-110. He concludes from the fact that the judge condemned the defendant on the basis of Article 14 (now 13) of the Law on protection of the soil, that apparently there was no violation of the lex certa principle.
149. Waling, C., Het materiële milieustrafrecht, pp. 63-64.
he claimed the norm was not in accordance with the legality principle. From the particular regulation it appeared that the fee had to be calculated on the basis of reasonableness, i.e., as much as was reasonable. The decision of the Court was: 'In this case the question arises whether such a stipulation complies with the criminal norm that behaviour should be defined so accurately that there is no doubt for the citizen whether particular behaviour falls within the stipulation concerned. In this case the norm is defined in Article 2 of the Fees for health care Act and in lists of fees, belonging to the above-mentioned delegated legislation of the Central Body for fees for health care of 20 December 1982. These lists only state that for medical services a fee may be claimed that is reasonable. Since a criminal conviction was not possible because of the violation of the lex certa principle, the Court acquitted the defendant.\textsuperscript{153}

3.4.3.4. Guilt

In many vague norms which can be criminally enforced there is no explicit guilt requirement. This also applies to the duties of care laid down in specific environmental law. Criminal enforcement is through Article 1a of the Economic Crimes Act. On the basis of Article 2 of the Act there is a criminal act when the norm has been violated with intent, otherwise it is merely an offence.

Article 13 (previously Article 14) of the Protection of the Soil Act states:

'Anyone who performs actions on or in the soil, as mentioned in Article 8-13 and who knows or can reasonably be expected to know that through these actions the soil can be polluted, has the obligation to take all those measures that can be reasonably expected from him in order to prevent this pollution, or if pollution occurs that is limited as much as possible and the results of this pollution are eliminated as much as possible.'

A problem that Buiting and Huygen refer to in this context is that intent must be directed at all the elements of the article. With the above-mentioned article and with the other articles containing a duty of care this is a problem because the combination of 'intent' and the elements 'reasonably be expected' is intrinsically contradictory.\textsuperscript{154} In his book 'Economisch Strafrecht' Keulen indicates that the meaning of the term intent is relatively clear, but that there is a great deal of lack of clarity about its range.\textsuperscript{155} He argues that the requirement that intent should apply to all the elements poses problems in those cases in which the remainder of the article concerning the particular violation contains subjective elements. According to him, the relevant legislative history will determine how to interpret intent. In relation to the duty of care in the Statute on the protection of the soil, the legislator had the intention of criminalizing intentional behaviour, which the perpetrator could have reasonably expected to lead to pollution of the soil. Thus according to him, intent is not required for the element


\textsuperscript{155} Keulen, B.F., Economisch strafrecht (Arnhem 1995) p. 41.
How to Punish Environmental Pollution? Some Reflections

'reasonably be expected',\textsuperscript{156} Intent is only required for the central part of the description of the offence.\textsuperscript{157} Therefore, intent in the first part of the description of the offence only applies to the act. The term 'reasonable' shall be determined in the course of time, the details of the offender's life and the community in which the norm is applied. The result of the fact that intent does not apply to this element and this interpretation is that there can be criminal liability without guilt. Criminal liability for the duty of care is not controlled by the principle of guilt.\textsuperscript{158} Instead for these norms, guilt is based on strict criminal liability. This seems to be an undesirable development.\textsuperscript{159}

3.4.3.5. Subsidiarity

It may be asked whether the use of vague norms is being limited to those cases where no alternative exists. It seems that vague norms in environmental law are used to help civil servants to detect criminal offences in cases where more specific regulations could also have been used (i.e. regulations from models A, B or C). These regulations, however, put greater demands on the legislative knowledge and expertise of civil servants. In the other models it seems to be that much more is required in relation to the quality of the evidence. In order to prevent irregularities during the initial stages of the legal procedure and to prevent problems for the judge, the choice in favour of model D may be easily made. This seems an undesirable development.

3.4.3.6. Proportionality

As mentioned before, in this model there does not have to be damage to the environment to be in violation of the criminally enforcable vague norm. In these cases there is not a fair relationship between the damage caused by the act and the sanction applicable.

If there is damage to the environment, the problem of assessing the extent of the damage in relation to determining the sanction remains. When the sanction is determined for someone who has violated a vague norm one should (considering the proportionality principle) take into account to what extent this person has tried to undo the damage to the environment.

3.4.3.7. Effectiveness

As indicated above there is a problem with the use of vague norms in relation to the legality principle. Partly because the norms are not very specific, it will not be very easy for citizens to know whether their behaviour is criminally punishable. Despite the above-mentioned problems, vague norms are used in the Netherlands to prevent undesirable behaviour. The judge simply decides that the act is a violation of the vague norm. In this way, vague norms

\textsuperscript{156} Keulen, B.F., \textit{Economisch strafrecht}, pp. 45-46.
\textsuperscript{158} Advocate-General Leijten asserts that there can only be criminal liability irrespective of guilt in the special form under (the negligence of) duty of care imposed by the law. Supreme Court ( Criminal Chamber) 2 June 1992, \textit{Nederlandse Jurisprudentie} (1992) p. 754. It is not clear to us why he restricts this to the legal provisions of duty of care. It will also be the case for a duty of care in a licence.
\textsuperscript{159} Compare Otto, M., \textit{Het stelsel van gedragsregels in het wegverkeer} (Arnhem 1993) pp. 114-122. Otto also considers it undesirable for a duty of care to be extended. He states that the duty of care should be related to the principle of guilt.
in criminal law are becoming a useful instrument to the Public Prosecutor. In 1992, 625 offence reports, based on the duty of care contained in Article 13 Protection of the Soil Act were served. In the first nine months of 1993, there were already 729 reports of offences based on this article.\(^{160}\)

Despite the usefulness of this model in environmental criminal law, the Public Prosecutor still tends not to use specific legislation and the related regulations to prosecute environmentally damaging behaviour. In the Netherlands, the Public Prosecutor relies largely on traditional criminal law. The Public Prosecutor especially makes use of the Penal Code, in particular Article 225: ‘valsheid in geschreven’ (forgery) and Article 140: ‘deelneming aan een organisatie die tot oogmerk heeft misdrijven te plegen’ (membership of a criminal organisation).\(^{161}\) Different reasons for using both provisions, which are not specifically geared to protection of the environment, are given by Schaffmeister.\(^{162}\) First of all, according to him the use of these provisions is promoted by the typically Dutch ‘grondslagdeel’ in the Criminal Procedures Act. This means that the indictment brought by the Public Prosecutor forms the basis of the prosecution and not the actual event. This causes what Melai calls ‘the tyranny of indictment’ through which the basis of the legal decision is declared binding for the Public Prosecutor. The judge concentrates on the indictment and he does not take into account what the defendant has actually done if it does not fit into the framework of the indictment.\(^{163}\) The room that remains for the judge is provided by Article 55, paragraph 2 of the Penal Code. This article stipulates that, when for a fact that falls under a general article in criminal law, a specific article in criminal law exists, only the latter applies. This seems to restrict the road chosen by the Public Prosecutor.

A defendant who shared this opinion, tried to invoke this article in his case. He had put motor oil on and/or into the ground. He was prosecuted for this on the basis of violation of the duty of care, Article 14 (now 13) Statute on the protection of the soil. Basing himself on Article 55 paragraph 2, Penal Code, he claimed that he had violated Article 25 ‘Lozingenbesluit Bodembescherming’ (Dumpings-decree for the protection of the soil), which states that it is forbidden to dump waste liquids in the soil. The Supreme Court stated that these articles do not contain the same elements. Furthermore the Supreme Court was of the view that the purpose of these articles is also different. Thus Article 14 (now Article 13) relates to the duty of care and the other article makes the dumping of certain liquids into the soil punishable. On this ground basis the Advocate-General concluded that there was insufficient reason for assuming that the legislator had intended a relation between these articles in the sense of Ar-

article 55, paragraph 2 of the Penal Code. In this manner the Supreme Court gave support to the Public Prosecutor.

Furthermore, Schaffmeister states that the use of classic criminal provisions is approved of, encouraged and promoted by the legislator and by case law. Thus Article 140 is phrased simply and is broadly interpreted – like all the elements of Article 225 – by the Dutch Supreme Court. Therefore, these provisions cause hardly any evidentiary problems for the Public Prosecutor.

Since the penalties in traditional offences are the same or more severe than in violations of a duty of care, the use of traditional law is more attractive to the Public Prosecutor. This is enhanced by the linking of the possible use of means of coercion with the maximum penalty.

Schaffmeister clearly has objections against the use of both provisions of the Criminal Code in environmental cases. According to him the choice in favour of these articles is simply the choice for the easiest solution. He argues that these articles should not be used, because norms that occur in environmental pollution are not mentioned in either of these articles. If the norm that has been violated does not occur in the article used, the undesirable behaviour cannot fall under the terms of the article. This is based on the fact that the behaviour is not unlawful or culpable.

Furthermore he claims that the use of such a broad provision of criminal law conflicts with the principle of specificity, because there is a specific article in environmental criminal law available to punish the wrongful behaviour as well. The latter should prevail, particularly because the specific article in environmental criminal law is more recent and more specific than the general article. Therefore, it is also in conflict with the lex-posterior principle. Moreover, in the general articles the entire act that took place is not described. Therefore, the defendants, will not be confronted with a clear picture of appropriate behaviour during the trial. Thus it may not be clear to him what kind of behaviour is expected of him in the future.

3.4.4. What Should be Proven?

In general, not much is required to prove a violation of vague norms. This becomes clear when looking at the regulations concerning the duty of care in the Netherlands. For instance, no damage to the environment has to be proven for establishing a violation of these duties of


166. De Vries-Leemans states that it is necessary to change the text of Article 140 because the phrasing of Article 140 does not exclude the present interpretation of the Supreme Court (De Vries-Leemans, M.J.H.J., Art. 140 Wetboek van Strafrecht (Arnhem 1995) p. 300). There is a risk that in Article 140 the individual responsibility will be extended too far (De Huitt, J., Zijn er grenzen aan de strafrechtelijke aansprakelijkheid? (Arnhem 1993) pp. 35-39).

167. For different kinds of duties to report and duties to account: see Buiting, Th.J.B., Strafrecht en Milieu, pp. 30-32.


care. It seems sufficient to state that there is (or has been) potentially harmful behaviour. An example may illustrate this.

An artist in the Netherlands used a particular substance to cover a sculpture, and he subsequently washed it of onto the street. The judge stated that it was not clear what sort of substance the defendant had used. What did become clear was that it was a toxic substance. In the first place because the defendant used the substance to give the metal object an appearance of age. In the second place it was obvious that the substance smelt badly and that it irritated the throat of the arresting officer. The defendant himself warned people in the neighbourhood not to step into the puddle of the substance because it was toxic. These circumstances led the judge to the conclusion that the substance used caused pollution and that the defendant was aware of this. The Dutch Supreme Court was of the opinion that from this evidence the conclusion could be drawn that a substance which could pollute the soil had been put on to the soil, and the appeal of the defendant was rejected. What kind of substance was used and whether damage was really caused to the soil were not examined.

That the use of duty of care is not specifically Dutch, for it can be seen in the ABT case in Belgium. In contrast to the case above the issue here was adherence with particular stipulations in a licence. The licence read as follows: ‘The necessary measures are to be taken to reduce noise pollution for the immediate environment to a minimum’. And in a further provision: ‘The measures required are to be taken so that the noise inherent in the exploitation of the establishment is contained as much as possible within the establishment and the registered or measured volume of noise does not at least exceed the usually acceptable nuisance for the immediate environment’. Further conditions were: ‘The installations for the coal and iron ore are to be built in such a manner, and the operations (transshipment, transport and storage) are to be executed in such a manner that dust-pollution does not exceed normal dust nuisance’. And ‘The measures required are to be taken for the immediate environment so that nuisance caused by dust, smoke, fumes, emanations and/or smell does not exceed acceptable norms, nor transgress normal nuisance’.

The Criminal Court of Antwerp came to the conclusion, based on the activities of the shipping company, viz. storage, loading and unloading, that the neighbours and also some other firms had lodged complaints about dust and noise, and that through local checks under the supervision of the Public Prosecutor and an administrative agency, the company was seen not to adequately heed the environmental laws and was violating these. The court ruled that violation of the above-mentioned stipulations of the licence had taken place.

3.4.5. Method of Proof

In general possible harmful behaviour towards aspects of the environment need to be proven. For this purpose all legal forms of evidence can be produced. On the basis of the information submitted the judge will decide whether there has been a violation of the duty of care. There are no detailed procedures that have to be followed to gather this evidence, nor are there requirements as to who has to do this. Both the special investigation services and the police can provide evidence. Moreover, evidence gathered by interested parties or others can be used, as long as this meets the requirements of the law of evidence.

170. Supreme Court 15 November 1994, Milieu en Recht, 1995/1, No. 10K.
The role of the expert will depend on the particular vague norm and the facts of the case in question. Frequently, however, his expertise will not be required. In complex cases the Public Prosecutor will probably make use of one or more experts. They will give information on (the lack of) harmful behaviour towards the environment. For example in the above case concerning the cable fires, use was made of an expert. During the court session he indicated that the burning of electric cables is always very harmful to the soil, because of the plastic fibres and the heavy metals which are released and spread. In this case the defendant was convicted on the grounds of a violation of the duty of care, Article 14 (now 13) of the Statute on the protection of the soil.\textsuperscript{172}

The defendant can of course always try to plead that his behaviour was not harmful towards (aspects of) the environment. He can make use of one or more experts for this purpose. Certainly when the Public Prosecutor makes use of an expert, the defendant will often be forced (because of the specific expertise of the prosecution witness), to use an expert himself in an attempt to refute these facts.

The proof does not have to illustrate that damage to the environment has taken place. That is not a condition for the violation of the duty of care. If the Public Prosecutor states that there is such damage, the defendant can try to refute this, possibly through the use of an expert.

3.4.6. The Role of the Various Parties

By choosing to make use of vague norms the legislator relinquishes control. The criminal law in this model is more independent from administrative authorities than in the models discussed above. Therefore in practice this model will often be used by the Public Prosecutor.

The Public Prosecutor cannot rely heavily on expertise gathered during the primary procedure by an expert and/or the administrative authorities. The examination of the evidence will concentrate on whether possibly harmful behaviour towards aspects of the environment has taken place. The Public Prosecutor has the freedom to choose the manner in which he proves this.

In this model the judge has great freedom in the execution of his role. In case of a possible violation of a duty of care he will, depending on the evidence submitted, decide whether or not there has been (potentially) harmful behaviour against (aspects of) the environment. For this ruling he can make use of information from experts.

In his assessment of the vague terms he will take into account the system of the particular regulation. The entire regulation ‘fills in’ the abstract, vague terms. Thus the meaning of the term is further defined by the other stipulations and the relevant article can fill in gaps in the regulations.\textsuperscript{173}

\begin{flushleft}
\textsuperscript{172} Court of Law, Amsterdam, 29 March 1990, Nederlandse Jurisprudentie (1990) p. 521.
\textsuperscript{173} 't Hart A.C., 'Artikel 25 WVV en het legaliteitsbeginsel', Strafrecht en betek (Leuven 1983). 't Hart discusses this and at large with reference to Article 25 'Weg en Verkeerswet' (Law for the traffic and roads) pp. 189-231.
\end{flushleft}
4. (POLICY) IMPLICATIONS

4.1. Shift in Legal Approach

In 3 we sketched models of criminalizing environmental pollution. On each occasion we tried to indicate what the specific features of the particular model were e.g. as far as the protected value is concerned and more particularly as far as the dependency of the criminal law on administrative decisions is concerned. The latter obviously also determines the questions of proof. The crucial question of our paper: how environmental pollution is proven, will inevitably depend upon the statutory protection that has been chosen.

Inevitably a division between four models can never be so exact that every provision can be categorized under one of the models. Nevertheless, it seems fair to state that in a historic perspective there also seems to have been an evolution from model A to model C. It was therefore not a mere coincidence that the models have been discussed in that order. Originally criminal law protection of the environment started out with criminal provisions that were mere annexes to environmental statutes which were highly administrative in nature (model A). Since model A was criticized for not providing direct protection of ecological values, legislative (and jurisprudential) evolutions in the 1980s, as a consequence of increased environmental awareness, led to the criminalization of concrete endangerment of ecological values (B). However, although in model B ecological values are directly protected, this protection fails as long as administrative regulations are complied with. In that case the condition of illegality is not met. This led legal doctrine and (proposed) legislation to punish some cases of serious environmental pollution notwithstanding the fact that the conditions of a licence were met (C). Interestingly enough, the legislator became aware of the fact that some of the changes in the 1980s were probably not very effective in protecting ecological values. This led the German legislator to introduce substantial amendments in 1994 to the recently adopted 18th Strafrechtsänderungsgesetz. In the Netherlands the ineffectiveness of Articles 173a and 173b was compensated with a move towards the use of vague notions.

A little different than the previous models are the vague notions we discussed in D. These can be found in many legal systems in the form of vague concepts in administrative licences, the violation of which is punished. However, this use of vague concepts is probably most pronounced in the Dutch legal system, where specific duties of care have been introduced in environmental law and which are also enforced by the criminal law. These vague concepts are obviously advocated by enforcers since they can be highly effective. There is no need anymore to prove the violation of an administrative duty or endangerment of the environment. As soon as a broadly defined duty of care has been violated the criminal law applies. This seeming advantage might, however, not exist in practice. First of all, there may still be much discussion on whether or not a specific duty of care has been violated. These discussions can lead to acquittals and therefore to an absence of adequate protection of ecological values. Secondly, since the norm that is to be protected is not reflected in the criminal provision, the criminal law will, in this case, lack norm building power. Because of these uncertainties non-specific norms might in the end be rather ineffective.

174. See Möhreschlager, M., l.c., pp. 513-519 and 566-569.
175. See also Roef, who equally argues that a too 'instrumental' environmental criminal law, not respecting the rule of law, might in the end be ineffective (Roef, D., o.c., Recht en Kritiek (1995) pp. 484-485).
How to Punish Environmental Pollution? Some Reflections

Within this section we shall have a look at these various models from a comparative perspective focussing, on the one hand, on the question of which models are probably most effective in protecting ecological values and on the other hand, in which models judicial protection as required by the rule of law is best guaranteed.176

4.2. Environmental Protection

<table>
<thead>
<tr>
<th>Model</th>
<th>Protected value</th>
<th>Relationship with administrative law</th>
<th>Who determines the limits?</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>environment</td>
<td>only punishable if administrative law violated</td>
<td>legislator administrative agency, but judicial control</td>
<td>criminal law applies only if administrative rules are violated</td>
</tr>
<tr>
<td>B</td>
<td>environment/human health</td>
<td>licence has justificative effect</td>
<td>more power for judge</td>
<td>more direct protection of environment</td>
</tr>
<tr>
<td>C</td>
<td>human health</td>
<td>none</td>
<td>the judge</td>
<td>aims at protecting human health</td>
</tr>
<tr>
<td>D</td>
<td>environment</td>
<td>justificative effect of the licence</td>
<td>the judge</td>
<td>uncertainty too large</td>
</tr>
</tbody>
</table>

This overview shows the strengths and weaknesses of the various models used as far as their capacity to protect the environment is concerned. Indeed, as far as the protected value is concerned, provisions falling under model A have the disadvantage that they apply even if no ecological harm exists; moreover they can not provide adequate protection if there is no violation of existing administrative rules. This is because there is too strong a relationship with administrative law and too much dependency on administrative decisions. The effectiveness is therefore relatively low, particularly as the judge seems to rely on the technical experts within this model.

Model B provides for better protection since it aims more directly at protecting the environment and is not dependent upon a violation of existing administrative decisions. However, meeting the conditions of an administrative licence will have justificative effects. The effectiveness is greater than in A, but this justificative effect remains a weakness. In model B the judge has more power to provide autonomous protection of the environment.

Model C seems highly effective in the sense that the criminal law applies even though the conditions of a licence were met. However, the protection of ecological values under this model is only realized in so far as human health or life is endangered. Therefore this model has, in current provisions, an anthropocentric accent. Again, under this model the judge has relatively wide powers to determine the limits.

Model D could protect ecological values, but the concepts used are so vague that one can not recognize the protected value in many cases. A licence still seems to have a justificative effect and the judge has powers to limit the criminal liability under vague notions.

4.3. The Rule of Law

<table>
<thead>
<tr>
<th>Model</th>
<th>Criminalization of harm?</th>
<th>Lex Certa principle</th>
<th>Guilt</th>
<th>Subsidiarity</th>
<th>Proportionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>-</td>
<td>+</td>
<td>no specific requirement</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>+</td>
<td>±</td>
<td>knowingly</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>++</td>
<td>±</td>
<td>knowingly</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>-</td>
<td></td>
<td>no specific intent</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

As far as the question is concerned whether the criminal provisions criminalize harm, this is certainly the case for C, that aims at concrete endangerment of human health and for B, aiming at concrete endangerment of the environment. Model A has the disadvantage that the criminal law applies, even if there is no specific threat of harm. The same is the case in model D where vague concepts are used, especially when using Article 140 of the Dutch Penal Code which simply punishes membership of a criminal organization, irrespective of whether or not this caused harm.

When moving from A to C one can note that the provisions indeed focus on more serious cases of harm. In addition the requirements of guilt increases. This should, according to the proportionality principle, also lead to an increased sanction. We could not complete this line since in this respect, many differences between the legal systems seem to exist. German criminal law indeed seems to increase the severity of the sanction when moving from A to C, but current Belgian law apparently does not.

As far as the *lex certa* principle is concerned there is an interesting reverse relationship when moving from models A to C. This obviously has to do with the difficulty of defining environmental pollution. The best protection is probably provided through model C, focussing on concrete endangerment of human health or life and applicable even if the conditions of a licence were followed. However, the disadvantage is that the notions used in provisions falling under model C are sometimes rather vague and can conflict with the *lex certa* principle. Provisions falling under model A on the other hand are usually extremely precise, but do not provide adequate protection of the environment, since they merely focus on abstract endangerment and are too dependent upon the violation of existing administrative rules. Here one will obviously have to look for a compromise between the search for specific norms informing citizens exactly *ex ante* on the legality of proposed behaviour and on the other hand the usefulness of vague norms that might better be able to protect the environment. This conflict is certainly not new for environmental criminal law.\(^{177}\)

One should note that the provisions falling under model D, especially if one looks at Article 140 of the Dutch Penal Code, have the disadvantage that they are negative, both with respect to the question whether they aim at protecting the environment against harm and with the respect to the question whether they comply with the *lex certa* principle. Provisions under model A at least have the advantage that they comply with the *lex certa* principle. Therefore we can endorse the criticisms of using vague concepts such as the one we discussed under

\(^{177}\) See on that point Hart, H.L.A., *o.c.*, pp. 130-131.
model D. These models can hardly be called effective and are problematic under the rule of law.

4.4. Evidence

<table>
<thead>
<tr>
<th>Model</th>
<th>What should be proven?</th>
<th>How?</th>
<th>Possibility of countercheck?</th>
<th>Division of labour</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>a: violation of administrative rules</td>
<td>sample/administrative expertise</td>
<td>usually regulated in statute</td>
<td>administrative expert</td>
</tr>
<tr>
<td>B</td>
<td>a: illegality b: emission/concrete endangerment c: intent</td>
<td>not regulated</td>
<td>not regulated</td>
<td>administrative expert and judge</td>
</tr>
<tr>
<td>C</td>
<td>b: emission/ endangerment c: intent</td>
<td>not regulated</td>
<td>not regulated</td>
<td>administrative expert and judge</td>
</tr>
<tr>
<td>D</td>
<td>violation of duty of care</td>
<td>not regulated</td>
<td>not regulated</td>
<td>expert and judge</td>
</tr>
</tbody>
</table>

This brief overview relates to one of the basic questions we were interested in, whether there is a relationship between questions of evidence and the criminalization of environmental pollution. Not surprisingly one can indeed note that the question of evidence very much depends on the model of criminalization used by the Public Prosecutor. Obviously the task of the Public Prosecutor might, to a large extent, also depend upon the scope of the provision used. If e.g. the statutory provision requires that actual pollution is caused and not just concrete endangerment this burden of proof might be so high that such evidence could never be brought.178 Therefore shifts, especially towards model D, might be explained on evidential grounds as well although one can find little reference to problems of evidence in comments as justification for moving towards different systems of criminalization.179 However, the practical application of the provisions discussed might also give some indication of the ‘probative value’ of the provisions. It is e.g. remarkable that in the Netherlands the provisions that were substantially amended in 1989 in the Dutch Penal Code and that are supposed to provide direct protection of the ecological values, are used very infrequently in practice. On the other hand, the Public Prosecutor uses either the violation of the duty of care or criminal provisions which are not related at all to the environment, such as forgery (225 Dutch Penal Code) or membership of a criminal organization (140 Dutch Penal Code).

The choice of a specific model of criminalization also has obvious consequences for the way a violation can be proven and the possibilities to countercheck. Usually the way samples

---

178. This equally explains why model A-type provisions cause few problems of proof since no endangerment of ecological values has to be proven (see Heine, G., o.c., Juristenzzeitung (1995) p. 652).
179. Exceptions are the Dutch Article 173a and 173b; in that respect it is indeed mentioned that the requirement of a concrete endangerment of public health or human life will be difficult to prove in practice.
How to Punish Environmental Pollution? Some Reflections

should be taken and counterchecked is only regulated in detail in provisions falling under model A. Judicial discretion is much greater when it comes e.g. to establishing whether or not there was concrete endangerment of the environment or human health. Once more the judge can, to a large extent, rely on expertise, but there is more scope for the ‘judging’ function of the Criminal Court than in case of a violation of purely technical provisions.

Although one would therefore also expect that the guarantees of the defence and the appropriate judicial protection would best be provided in those models where judicial discretion is greatest, this need not necessarily be the case. In such cases the methods of proving environmental pollution are not regulated and although the judge can aim at true protection of ecological values by restricting criminal liability to situations where these values have really been endangered, in legal practice one cannot be certain that this is true. The case-law of the Dutch Supreme Court on the duties of care and the use of Article 140 of the Dutch Penal Code in environmental cases, which both seem to conflict with the lex certa principle, give reasons for pessimism. In that respect the question arises whether, even if one moves towards models that aim more directly at protecting ecological values by criminalizing concrete endangerment, this should not be accompanied with clear legal rules, e.g. guaranteeing a right of countercheck.180

This characterization of the different roles of the judge in the various models does not necessarily mean that on a normative level this should lead to a preference for a specific model. Indeed, in model A there is a control by the judiciary as well, but it plays a role at the procedural level, by controlling whether the procedural guarantees of e.g. the way samples were taken, were met. In the other models there is – in theory – more room for independent consideration of the pollution problem. This might lead to more adequate protection of ecological values and a better balance of the interests of the defendant. However, it is not always certain that in practice in model B the environment and the defendant are better off than in model A. The mere fact that on paper the judge is a slave of technical expertise in model A, does not necessarily mean that this will always put the defendant in a disadvantageous position. The proof of the pudding will - as usual - lay in the eating, that is to say in the way the judge uses the procedural guarantees provided in model A or his discretionary powers in model B.

5. CONCLUDING REMARKS

In this paper we have tried to address the question how environmental pollution should be proven. In that respect we have taken an approach to the problem of environmental pollution by focussing on material criminal law and asking ourselves what the consequences are of various existing models of environmental criminal law. We were interested in the consequences both with respect to the ability of the models to provide adequate protection of the environment and in their ability to use the criminal law in a way that respects the rule of law. Obviously these models are far from exhaustive, if only because we focussed on three legal systems: Belgium, the Netherlands and Germany.

In IV we looked at some of the implications of the various models by comparing them in several overviews. This shows that in fact, no ideal model exists. In the 1980s a lot of criti-

cism was directed at the traditional model of abstract endangerment, under which the criminal law was merely enforcing existing administrative decisions. This model indeed makes the judge dependant on technical expertise and is also ineffective in its strictest sense, if violation of an administrative rule is indeed a requirement for criminal liability. If that is the case, the protection by the criminal law will fail as soon as administrative rules are not available. The criticism of this administrative dependency of the environmental criminal law led legislators and judges to a search for the means to provide more adequate protection, e.g. by punishing concrete endangerment of ecological values. However, we showed that the otherside of this move is that the necessary preciseness that existed under the abstract endangerment model will often be missed if one criminalizes 'environmental pollution'. Therefore it seems necessary to find a compromise between the wish to provide adequate protection of ecological values on the one hand and on the other hand the need to respect the lex certa principle. Since none of the systems is ideal, this probably calls for a combined use of both systems, which is actually the case in the three legal systems we discussed. Moreover, it seems warranted that for very serious cases of environmental pollution the criminal law intervenes even if the conditions of a licence are met. But then again the question will arise how one can define cases of serious environmental pollution in a way that respects the lex certa principle. The way this is done today is usually by reference to concrete endangerment of human health which has the disadvantage that it takes a too anthropocentric focus on environmental protection, but on the other hand might be unavoidable as well.

We also discussed the role of the judge in the various models. Model A certainly has the disadvantage that the judge is very much dependent upon prior information of the administrative agency and other experts. In models B and C there is more room for judicial discretion. This could also lead to increased effectiveness as long as the judges use this discretion to provide optimal protection of ecological values, but at the same time asking themselves whether this case still meets the statutory requirements of the legislator. In that respect one can be quite critical of the use of concepts which are too vague either in licences or in criminally enforced duties of care. The same is true for the Dutch practice of prosecuting environmental criminals for membership of a criminal organization (Article 140 of the Dutch Penal Code). This use of vague notions certainly violates the lex certa principle. In addition it also seems ineffective since the social norm that the criminal law is supposed to protect cannot be read anymore into the criminal provision that is applied. Moreover, the active use that is made of these provisions in the Netherlands shows that although judges do have a possibility to exercise their judicial discretion in such a way as to limit criminal liability, in caselaw there has been almost no end or restriction on this tendency to use vague norms. This does not seem to do the environment any good since these duties of care apply, and are enforced, even if there was no endangerment to ecological values. Hence, they also seem to violate the proportionality principle.

The increased use of these vague notions seems to be an example of the use of the criminal law to deal effectively with a problem in a time when environmental pollution seems to be one of the major problems society has to cope with. However, it seems wrong to believe that a use of the criminal law that violates basic principles will be able to deal with these major social problems in an effective way. The use of these vague notions, without reference to the underlying social norms, will lack any norm building value and hence in the end not benefit society as a whole. Even if one were to argue that the use of these vague notions are effective, we still would have problems with them since the price for their use in terms of the role
of law, more specifically the *lex certa* principle, simply seems too high. In that respect we can whole-heartedly endorse the criticism that the fight against environmental pollution should not lead to the pollution of the criminal law itself.\(^{181}\)

**List of References**


Commissie toetsing van wetgevingsprojecten, *Advies van de commissie voor de toetsing van wetgevingsprojecten inzake zorgplichtbepalingen*, CTW 90/6 – 20 August 1990.


---

How to Punish Environmental Pollution? Some Reflections


De Roos, Th.A., Strafbaarstelling van economische delicten (Arnhem 1987).


How to Punish Environmental Pollution? Some Reflections


How to Punish Environmental Pollution? Some Reflections


How to Punish Environmental Pollution? Some Reflections


Nijboer, J.F., De doolhof van de Nederlandse strafwetgeving (Groningen 1987).


