Fashioning Entitlements: a Comparative Law and Economic Analysis of the Judicial Role in Environmental Centralization in the US and Europe

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Abstract

This paper identifies and evaluates, from an economic point of view, the role of the judiciary the steady shift of environmental regulatory authority to higher, more centralized levels of government in both the U.S. and Europe. We supply both a positive analysis of how the decisions made by judges have affected the incentives of both private and public actors to pollute the natural environment, and normative answers to the question of whether judges have acted so as to create incentives that move levels of pollution in an efficient direction, toward their optimal, cost-minimizing (or net-benefit-maximizing) levels. Highlights of the analysis include the following points:

1) Industrial-era local (state or national) legislation awarding entitlements to pollute was almost certainly inefficient due to a fundamental economic obstacle faced by those who suffer harm from the over-pollution of publicly owned natural resources: the inability to monetize and credibly commit to repay the future economic value of reducing pollution.

2) When industrial era pollution spilled across state lines in the US, the federal courts, in particular the Supreme Court, fashioned a federal common law of interstate nuisance that set up essentially the same sort of blurry, uncertain entitlements to pollute or be free of pollution that had been created by the state courts in resolving local pollution disputes. We argue that for the typical pollution problem, a legal regime of blurry interstate entitlements – with neither jurisdiction having a clear right either to pollute or be free of pollution from the other – is likely to generate efficient incentives for interjursidictional bargaining, even despite the public choice problems besetting majority-rule government. Interestingly, a very similar system of de facto entitlements arose and often stimulated interjursidictional bargaining in Europe as well as in the U.S.

3) The US federal courts have generally interpreted the federal environmental statutes in ways that give clear primacy to federal regulators. Through such judicial interpretation, state and local regulators face a continuing risk of having their decisions overridden by federal regulators. This reduces the incentives for regulatory innovation at the state and local level. Judicial authorization of federal overrides has thus weakened the economic rationale for cooperative federalism suggested by economic models of principal-agent relationships. As a result of the principle of attribution, there is less risk in Europe that (like in the US) courts would enlarge the federal purview and thereby limit the powers of the Member States. Despite this principle, the power of the European bureaucracy (that is, the European Commission) has steadily increased and led to a steady shift of environmental regulatory competencies to the European level. This shift is only sometimes normatively desirable, and yet there is little that the ECJ can or will do to slow it.

I. Introduction

From its eighteenth century beginnings, American environmental regulation has evolved from a local system in which common law judges played a central regulatory role to a highly centralized system of uniform, federal command and control regulations in which the courts have played a less central but nonetheless significant role. . On balance, the courts have provided few checks or constraints on the centralization (in the US, federalization) of American environmental regulation. Indeed, the courts have interpreted federal environmental regulatory statutes in a way that has systematically diminished the scope for pollution control via either the common law or through subnational (in the US, state and local) environmental regulation. At the same time, they have given vast discretion to federal environmental regulators. Rather than attempting to use their ability to interpret the law to control the pace of regulatory centralization, American courts have interpreted the law so as to speed and bolster centralization.

In Europe, the European Court of Justice (ECJ) has also played a crucial role in the process of shifting powers for environmental policy to the European level. It is of course true that the role of the European Court of Justice is very different than that of the federal courts in the US. European environmental competences were in fact only brought about by the single European Act which came into force on 1 July 1987, and most of the important developments in European environmental law and policy have undoubtedly been rather the result of legislative changes rather than through judicial activism by the

court. (Axelrod 2005, pp. 200-224). European Union institutions today still lack direct enforcement powers, and instead regulate indirectly by requiring Member States to implement European legal obligations into rules of material environmental law in domestic legislation.[1] It is undoubtedly correct to state that the American and European systems are so different that it makes comparison difficult. Indeed, a leading author in European environmental law, Ludwig Krämer, recently went so far as to argue that because 'the European Union (EU) does not enjoy the prerogatives of a state; it may act only where it has been expressly so authorized by the treaty … Any comparison with domestic environmental law in the member states, or with that of the US is therefore necessarily misleading.' (Krämer 2002, p.155). We are more optimistic about comparative work involving Europe, and especially about the project we undertake here, which is to compare the role that courts have played in environmental regulatory centralization in Europe versus the US.

From a European perspective, such a comparison can be addressed from a variety of different angles. One could on the one hand examine the role courts have played in some European member states with a federal structure such as Germany or Belgium, exploring the division of environmental policy competences between the regions and the national state. Here, however, evolutionary paths are quite divergent and very much linked to the national constitutional structure. A second, and we believe more promising, approach is to compare the role of the federal courts in the US in the federalization of US environmental regulation with the role that the ECJ has played in the centralization of environmental policy in Europe. Indeed, even though in Europe environmental regulatory centralization[2] has been primarily the result of legislative changes at the European level

which resulted from the political process moving towards further European integration, one can clearly identify important episodes where the case law of the ECJ has played an important role in the centralization of environmental policy by compelling Member States to transpose European directives into national law. A milestone in that respect is probably a recent decision of the ECJ of 13 September 2005, which held that the European Commission has competence to force Member States to use the criminal law to guarantee an effective implementation of European environmental law by the member states. As we explain below in more detail, this decision could effectively authorize the creation of a European environmental criminal law. The ECJ has also played and important and perhaps somewhat more traditional role in regulatory centralization through its case law involving the legality under the European Treaty of domestic environmental laws that have the effect of interfering with free trade within the European market. Here, it has had to judge whether Member State initiatives aimed at the protection of the environment (for example, the decision of the Danish legislator to introduce a deposit-and-return system for drink containers) created such an impediment to the free movement of goods as to endanger this fundamental objective of European integration. The US Supreme Court has adjudicated very similar disputes involving state environmental measures under its so-called Dormant Commerce Clause jurisprudence. Even though the role of the ECJ and the US Supreme Court in such trade and environment conflicts has of course been different in various respects, both courts have had to resolve strikingly similar issues, providing a very interesting topic for comparative analysis of the judicial role. (Vogel 2004, pp. 230-252).

In this paper we recount key episodes in the evolution of the judicial role in American and European environmental regulation, and evaluate those changes from the law and economics point of view. The law and economics model seeks to identify the behavioral incentives created by alternative legal rules or regimes for rational economic actors (the positive question) and to evaluate the economic efficiency of those incentives (the normative project). As applied here, this model entails positive analysis of how the decisions made by judges have affected the incentives of both private and public actors to pollute the natural environment. Normatively, the question is whether judges have acted so as to create incentives that move levels of pollution in an efficient direction, toward their optimal, cost-minimizing (or net-benefit-maximizing) levels. The analysis in this paper draws heavily upon earlier, more formal work of one of the authors, but as our goal is primarily to provide an accessible description of the changing judicial role, the analysis here is informal.

We begin with early developments in the US. The reason we begin there is that this allows us to trace the evolution of the judicial role from a very activist period – when courts used the common law to fashion entitlements between polluters and victims – to later stages where regulatory centralization emerged at least in part because of the perceived failure of the old common law approach in an age of mass industrialization and frequent interstate pollution. A comparable analysis is far more difficult for Europe since until relatively recently, environmental law in Europe consisted of the material environmental norms in the 27 different member states. Of course, a few examples can be given (from countries such as Belgium, France or Germany) to indicate how civil law judges were confronted with similar problems as judges in the US. Still, only relatively

recently has European law made large shifts in environmental policy from the member states to Europe, and it was through such legislative changes that the ECJ became a crucial institutional actor in the centralization of environmental policy in Europe.

An analysis of the role of the judiciary in creating effective incentives for environmental cost internalization begins with the common law of nuisance. This body of law (made by state judges) did more than set the rules for the resolution of disputes involving conflicting land uses by adjacent landowners. Incarnated in ex post common law principles for balancing conflicting land uses and incorporated in local regulations, nuisance law was the dominant instrument for pollution control for most of American history. Common law judges, moreover, fashioned nuisance into a place- and case-specific cost-benefit balancing test that had the somewhat non-intuitive effect of improving incentives for private bargaining over relative entitlements to pollute or be free of pollution. Nuisance law was also the main instrument for pollution control in many European legal systems. Case law and legal doctrine in many European countries used traditional property law concepts to solve conflicts between property rights of neighbors. (Gordley 1998, pp. 13-29).

Late nineteenth century American industrialization and urban agglomeration increased the scale of environmental harms even as increased population density made interjurisdictional externalities more common. When pollution was internalized to a particular local jurisdiction, local regulation patterned after the common law of nuisance was swift and effective. But when pollution spilled across local jurisdictions, the legal fact that local jurisdictions do not have extraterritorial regulatory authority meant that neither the common law nor local regulation was an effective control. When state

legislatures did act, rather than authorizing intrastate, interjurisdictional nuisance actions, they passed legislation insulating developed, populous jurisdictions from responsibility for the harm caused by their pollution. Within states, the industrial era legal regime became one of a de facto entitlement to pollute. Such entitlements to pollute were almost certainly inefficient, and this inefficiency reflects a fundamental economic obstacle faced by those who suffer harm from the over-pollution of publicly owned natural resources: the inability to monetize and credibly commit to repay the future economic value of reducing pollution.

During the period of industrialization, the limits of the nuisance-based approach also became clear in Europe. The 'collective first use' of a particular area by industry was often considered a defense against the plaintiff who 'came to the nuisance', and legal doctrine held that if neighbors could claim to have a right to the purity of air for their persons and their goods, the existence of towns would be impossible. (Gordly 1998, p. 18). The nineteenth century European judiciary was thus not able (and probably not willing) to use nuisance law in order to stop the process of industrialization. Nevertheless, in some European jurisdictions one could notice a tendency to expand the scope of nuisance law in order to award damages to neighbors who suffered 'intolerable harm' as a result of emissions. However, this case law only provided a remedy for localized pollution and conflicts between adjacent properties. To regulate pollution that crossed boundaries of a township or village, nuisance law did not provide a remedy. Therefore, in many countries early 'environmental' acts began to appear in the late nineteenth century.[3] Even though the goal of these acts was more the protection of the

public health and the safety of workers, they could equally have the effect of reducing emissions and thus harm to third parties.

When industrial era pollution spilled across state lines in the US, the federal courts, in particular the Supreme Court, possessed and exercised jurisdiction to fashion a federal common law of interstate nuisance. This body of federal common law set up essentially the same sort of blurry, uncertain entitlements to pollute or be free of pollution that had been created by the state courts in resolving local pollution disputes. In American interstate pollution disputes, however, it is not private firms and individuals who bargain over pollution entitlements, but rather democratically elected state government representatives. One might be skeptical that a legal regime that generated efficient incentives for private bargaining would also do so for public, intergovernmental bargaining. We argue to the contrary that for the typical pollution problem, where a relatively small number of voters benefit from pollution while the majority suffer its harm, a legal regime of blurry interstate entitlements – with neither jurisdiction having a clear right either to pollute or be free of pollution from the other – is likely to generate efficient incentives despite the public choice problems besetting majority-rule government.

Until the creation of the European Economic Community 50 years ago, there was no structural institutional framework to solve interjurisdictional problems and thus provide a remedy for transboundary externalities in Europe. These transboundary externalities therefore constituted a major problem between neighboring states, and many examples of inefficient externalization could be provided.[4] A convention on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters in

1968 granted victims a right to bring a case before the courts of the place where the harm occurred. This provided some remedy and possibilities for the judiciary to act against transboundary pollution cases.[5] To some extent, the definition of entitlements as a result of these cases may have stimulated bargaining, but because of institutional limitations, efficient results did not always follow. Moreover, a federal court system comparable to that of the US was and is still missing in Europe. In Europe, the remedy for transboundary (water) pollution therefore came with European directives fixing emission standards that could subsequently be enforced upon Member States, meaning that Member States have to implement these European standards in their national legislation.

Modern federal environmental laws in the US – passed during what may be called the Environmentalist Era of 1970-1980 – represent a radical departure from the regime of localized, common law nuisance that was significant up until the early twentieth century. Rather than localized balancing of costs and benefits, federal environmental standards require nationally uniform, technology-based levels of pollution reduction. Such regulations are set not by common law courts, but by federal regulators. They are then implemented in facility-specific permits and enforced by subnational regulatory authorities. In Europe, the evolution of modern environmental law took place in various stages. An important first stage was that, like in the US, the national legislators in the member states drafted sectoral environmental laws introducing an administrative regulatory framework for emission controls and imposing technology based levels of pollution reduction (either sector specific or in plant specific permits). In a second stage, with the growing importance of European environmental law, a further harmonization of environmental law of the Member States took place, as a result of which a large part of

material environmental law in the European Member States is now based on European directives. This means that the national environmental law with which citizens and enterprises have to comply is for a large part the result of the implementation of European law by the Member States.

Given that the typical pollution problem dealt with in the US by these new federal environmental controls was not interjurisdictional but relatively localized, one might have thought that the federal courts would have had a difficult time finding that the US Congress had the constitutional authority to regulate such problems. The courts did not. Indeed, through both constitutional and statutory interpretation, the courts (and here we mean exclusively the federal courts) not only facilitated centralization but also found that federal environmental regulatory activity preempted the federal common law of interstate pollution and large areas of state and local environmental regulation. Furthermore, in interpreting the federal constitution to require government to compensate landowners for (large) decreases in market value induced by environmental controls on land development, the Supreme Court has imposed costs that tend to differentially constrain subnational as opposed to national environmental controls. The US federal courts have generally interpreted the federal environmental statutes in ways that give clear primacy to federal regulators. Through such judicial interpretation, state and local regulators face a continuing risk of having their decisions overridden by federal regulators. This reduces the incentives for regulatory innovation at the state and local level. Judicial authorization of federal overrides has thus weakened the economic rationale for cooperative federalism suggested by economic models of principal-agent relationships.

In Europe, European environmental law has certainly not only dealt with problems of transboundary externalities, but also with localized pollution problems. This has lead to criticism from law and economics scholars that far too much authority has been allocated to the European level, more than would be necessary to cure transboundary externalities. (Van den Bergh 1996, pp. 121-166). Unlike in the US, European 'states'are sovereign nations, and in Europe today substantial environmental regulatory authority remains with the Member States. Under the so-called principle of attribution, European institutions' powers extend only so far as has been expressly confirmed by the treaty.[6] As a result of this principle, there is less risk in Europe that (like in the US) courts would enlarge the federal purview and thereby limit the powers of the Member States. Despite this principle, the power of the European bureaucracy (that is, the European Commission) has steadily increased and led to a steady shift of environmental regulatory competencies to the European level. As we suggest in our conclusion, it is not clear that there is anything that the ECJ can or will do to slow this shift.

Finally, although judicial support is very important to the success of recent regulatory initiatives intended to restore a greater degree of local control – including environmental justice directives and place-based environmental contracts – those initiatives conflict with the basic American scheme of technology-based, nationally uniform federal regulations. Because the US federal courts have been primary instruments in the construction and maintenance of the federalized scheme rather than an institution where localizing innovations find support, the courts have been the place where such innovations risk being declared inconsistent with the existing statutory and

regulatory structure. The courts have also, and necessarily, been the locus of the burgeoning pursuit of federal environmental criminal prosecutions. While state prosecutors themselves have increasingly pursued environmental crimes, it is unclear whether criminalization has contributed to the centralization of environmental regulation and enforcement more generally.

As mentioned briefly earlier, in Europe there has been an important and very recent trend towards centralization of criminal law, a trend spurred by the case law of the ECJ. The move toward centralized European environmental criminal law seems motivated by the desire to increase the effectiveness of the enforcement of European environmental law within the member states. However, unlike the American system – where federal environmental criminal laws are enforced by unelected federal prosecutors – in Europe, "European" environmental criminal law becomes effective only when incorporated into national legislation and enforced by national prosecutors. Hence, as we explain in more detail below, there may be little reason to expect the Europeanization of environmental criminal law to effectively remedy the enforcement gap: countries that do not stringently implement environmental laws carrying civil penalties may be even less likely to stringently enforce laws carrying criminal penalties.

The central goal of our paper is therefore to identify the role of the judiciary in the development of environmental regulation in the US and in Europe, and in particular in the steady shift of environmental regulatory authority to higher, more centralized levels of government. After this introduction (Part I), we first address the role of the courts in the common law and in nuisance cases in Europe (Part II). Next, we address the judicial role in the twentieth century regulatory state and examine to what extent courts provided

remedies for interstate pollution problems (Part III). Finally, we address the role of courts in the US and Europe in the era of federalization, more particularly addressing the question of how courts have responded via a shifting of powers to interstate pollution problems (Part IV).

II. Bargaining over Pollution: Courts, Coase and the Common Law

Just as the common law of nuisance is the foundation of modern American environmental law, so too is Coase Theorem, the foundation of contemporary economic analysis of legal rules and institutions. (Coase 1960). The Coase Theorem holds that in the absence of transaction costs or other bargaining costs, dyadic disputes over competing land uses will be resolved in an efficient manner, regardless of which of the two parties holds the legal entitlement. If a factory's smoke harms an adjacent homeowner in the amount of $1000, but the factory can abate harm by spending $500, then one way or another, the Coase Theorem holds, the factory and homeowner will bargain to an agreement under which the factory abates the harm. If the factory has the legal right to pollute, then the homeowner will pay the factory $500 to abate the nuisance. If the homeowner has the legal right to be free of pollution, then the homeowner will credibly threaten to invoke its legal right to stop the factory from operating if it does not abate, and faced with such a threat, the factory will abate rather than cease operations and lose far more in lost profits than the $500 cost of abatement.

As is clear from this brief and informal example, in its most basic form the Coase Theorem implicitly assumes not only costless, perfect bargaining, but also a legal system

in which legal entitlements are definite, certain and costlessly enforced. Given these assumptions, the Theorem presents a very limited role for common law judges: it doesn't matter to whom a judge gives the legal entitlement, so long as she does so clearly.
On basic Coasean analysis, judges become important only when the assumptions underlying the Theorem fail to hold. In particular, when transactions costs are so high that they exceed the potential gains from bargaining around a legal entitlement, the parties will not bargain around the initial assignment of the legal entitlement, and if efficiency is to be served, then judges must assign the entitlement to whichever party values it most highly. In other words, with high transaction costs, judges would need to engage in some sort of situation-specific cost-benefit analysis if they were to systematically promote efficiency.

This analysis generates the positive prediction that if judges wanted to promote efficiency, then in cases where transaction costs are high and it is unlikely that the parties will bargain, judges should award entitlements to whomever they identify as valuing the entitlement most highly, while in cases with low transaction costs, they should use consistent categorical rules that determine which of two parties will get the entitlement, rules that do not require any determination of the relative value of the entitlement to the conflicting parties.

The common law of real property in fact contains two contrasting rules for determining the rights of real property owners that correspond quite closely to this choice between a simple and certain assignment of an entitlement and an assignment that depends upon the outcome of a rough, case-specific balancing of relative value: trespass and nuisance. To establish the right to recover in trespass, a landowner need only show

(roughly) a physical invasion of her property. That is, under the law of trespass, a private landowner has the right to be free of any and all infringements of her right to exclusive possession of the lands. Under the law of nuisance, by contrast, whether or not a landowner has the right to enjoin or get damages from an interference with her right of exclusive possession depends upon how the court balances the value of the interfering activity against the harm suffered by the landowner. If the court decides that the harm-causing activity is very valuable and the amount of harm is small, then the court will declare (depending upon the particular jurisdiction) either that there is no legally actionable nuisance, or that there is a nuisance but that the landowner can only get damages for the harm it causes her rather than a legal right to enjoin (stop) the harmful activity.

A relatively large, older body of work in law and economics argues that common law judges made an efficient choice between trespass and nuisance, in that they protected landowner rights with trespass – the definite, ex ante entitlement – in situations where transaction costs are low (so that the parties can bargain around the assignment of the entitlement), and with nuisance – a blurry, ex post entitlement – in situations where transaction costs are high (so that the parties are unlikely to bargain around the entitlement if it were assigned clearly ex ante). For instance, Merrill argues that the common law rules that trespass applied to disturbances (such as rocks or water) that were visible to the naked eye, while nuisance applied to unseen disturbances (such as pollution by a colorless gas) were efficient because the costs of bargaining are lower with visible disturbances than with invisible disturbances. (Merill 1985, pp. 33-34). Such analysis is entirely doctrinal and intuitive, in that it argues that common law doctrines set definite ex

ante entitlements in those general types of cases where bargaining costs are typically low and blurry, ex post entitlements in those cases where bargaining costs are typically high.

A. How the Common Law of Nuisance Facilitated Efficient Private Bargaining: Theory

However elegant it may be, such analysis is unsound as both a theoretical and empirical/historical matter. The theoretical weakness is in supposing that bargaining over definite entitlements that are fixed ex ante is generally more efficient than bargaining around entitlements that are determined in an uncertain way ex post. This is true when bargaining takes place under complete information, but complete information is of course the exception in virtually every interesting bargaining problem. In the paradigmatic dyadic nuisance situation, there is asymmetric and incomplete information, in that a factory does not know how much harm its emissions cause to a nearby homeowner (but the homeowner does), while the homeowner does not know whether the factory can abate the pollution and if so what the cost of such abatement might be (but the factory does have such information). A very core result in the modern game theoretic analysis of bargaining is that incomplete information creates an incentive for strategic behavior in bargaining, and that such strategic behavior generally entails inefficient delay and (depending upon the structure) a positive probability that agreement is never reached. Hence even if direct transaction costs are zero, when there is incomplete information, the parties will not efficiently bargain around inefficient clear ex ante entitlements. (Cooter 1982; Farrell 1987; Samuelson 1985).

Under conditions of incomplete information, incentives for strategic bargaining delay are generally improved when entitlements are of the uncertain, blurry ex post variety. (Johnston 1995; Ayres 1995). Consider, for example, the balancing test for nuisance. Under this test, the factory gets the entitlement to pollute without paying if the court determines that the factory's value from pollution is greater than the harm its pollution does to the homeowner, while the homeowner has the entitlement if the court decides that its harm exceeds the factory's value. Provided that there is sufficient likelihood that the court will find that the factory's value exceeds the homeowner's harm, the factory has a credible threat to simply operate and cause harm without consent. The factory can use such a credible threat to lessen the incentive for the homeowner to wait and holdout for a high offer in bargaining. Indeed, if the resident is not extremely impatient, the credible threat to impose uncompensated harm is a more effective screen against holdout behavior by the resident than is the credible threat to impose delay costs, which is the only way to screen under a regime such as trespass, which awards a fixed entitlement to the homeowner. The contingent ex post entitlement created by nuisance means that the homeowner does not know ex ante whether she is the holder/seller of an entitlement to be free of pollution (which would result if the court finds that her harm exceeds the factory's value) or is instead the buyer of such an entitlement from a factory that has the right to pollute (which would result if the court finds that the factory's value exceeds the homeowner's harm).

In this way, legal uncertainty creates countervailing incentives offsetting the typical incentive for inefficient strategic delay in incomplete information bargaining. Importantly, it is precisely because case-specific ex post balancing (common law cost-

benefit analysis) is costly and imperfect that it improves the efficiency of private bargaining. To understand why this is so, suppose that ex post common law cost-benefit analysis was perfect and costless, so that courts always costlessly awarded the entitlement to whichever party valued it most highly. In such a world, private bargaining would be superfluous and judicial resolution would completely supplant private ordering. Conversely, if courts were completely irrational, in that the chances of, for example, a homeowner getting an injunction were higher the lower the homeowner's harm, then ex post balancing could induce inefficient private bargains in which a homeowner consented to the factory's operation even though the factory's value was less than the homeowner's harm. It is only when the ex post nuisance balancing process is costly and imperfect but still rational – in that the higher the homeowner's harm relative to the factory's value, the higher the probability that the homeowner gets the entitlement – that it improves the efficiency of private bargaining.

Thus purely as a theoretical matter, there is no reason to think that courts should have adopted clear and definite ex ante assignments of rights in order to facilitate the private resolution through bargaining of localized pollution and land use conflicts. Rather than using case-specific cost-benefit balancing as a way to make the entitlement determinations themselves, courts might well have implemented such a legal regime in order to facilitate and improve the efficiency of private bargaining that occurred in the shadow of such ex post balancing.

B. The Common Law of Nuisance and Environmental Governance: History

American legal history, moreover, does not support the idea that courts adopted case-specific balancing in nuisance disputes to supplant rather than to facilitate private bargaining. For most of the nineteenth century, nuisance did not involve ex post balancing but was based on the older English common law rule of 'absolute dominion,' under which a landowner had a right to enjoin any activity that caused material harm to the use and enjoyment of her property. (Karsten 1997, p. 134). Historian William Novak has argued that such a clear and uncluttered nuisance rule was central to the 'well regulated governance' regime that prevailed in the United States from 1787 until 1877, a regime in which states and localities regulated communities subject to common law rules. As Novak puts it, during this period, nuisance was not just 'an archaic [individuated, ex post facto, court-centered] technology for addressing the somewhat irritating land-use habits of a not-so-good neighbor,' but was of 'overarching significance.' It was, he continues:

> …neither trivial nor timid. Along with every unneighborly hogsty or spite fence abated as a nuisance came dozens of ships, hospitals, steam engines, furnaces, dairies, sewers, slaughterhouses, stables, pumping stations, foundries, manufactories, and saloons. Almost every major innovation in transportation and industry at one time or other came within the purview of nuisance law: mills, dams, railroads, smokestacks, and public works. Declaring an activity or establishment a nuisance in the nineteenth century unleashed the full power and authority of the state. Perhaps under no other circumstances (short of martial law) could private property and liberty be so quickly and completely restrained or destroyed. (Novak 1996, pp. 61-62). Novack argues persuasively that during this

period, when American environmental and land use law had their beginnings, nuisance was central to a highly localized regulatory regime based on two common law principles: *sic* utere tuo and salus populi. As famously stated by Vice-Chancellor Dodd of New Jersey in Manhattan Manufacturing and Fertilizing Company v. Van Keuren:

> At common law, it was always the right of a citizen, without official authority, to abate a public nuisance, and without waiting to have it judged such by a legal tribunal…This common law right still exists in full force. Any citizen, acting either as an individual or a public official under the orders of local or municipal authorities, whether such orders be or be not in the pursuance of special legislation or chartered provisions, may abate what the common law deemed a public nuisance. In abating it, property may be destroyed and the owner deprived of it without trial, without notice, and without compensation. Such destruction for the public safety or health, is not a taking of private property for public use…It is simply the prevention of noxious and unlawful use, and depends upon the principles that every man must use his property so as not to injure his neighbor [sic utere tuo], and that the safety of the public is the paramount law [salus populi]. These principles are legal maxims or axioms essential to the existence of regulated society. Written constitutions pre-suppose them, are subordinate to them, and cannot set them aside. They underlie and justify what is termed the police power of the state.

(23 NJE 161 (1872)). By the 1870s, the long list of offensive trades that had been determined to constitute a nuisance at common law included swine yards, a soap factory,

a tallow furnace, a slaughterhouse, a horse-boiling establishment, a milldam, brick burning, limekilns, steam boilers, tanneries and gasworks. (Novak 1996, p. 218). Of course, by the 1870s, the United States was in the midst of a profound economic transformation marked by accelerating industrialization and urbanization. It was precisely at this historical point in time that American courts developed the nuisance balancing test, under which a private nuisance could be enjoined only if the plaintiff succeeded in showing that the plaintiff's harm from the alleged nuisance was greater than the public benefit from the nuisance-creating activity. (Karsten 1997, p. 134)

Legal historians once believed that under this balancing test, late nineteenth century American courts routinely found that the industrial value outweighed the private harm from pollution, thus allowing gilded age industry to operate without fear of private injunction. This view has not been supported by further historical research. As Peter Karsten summarizes, more recent historical work has in fact revealed a more complex pattern, with the courts of some states balancing, the courts of others oscillating between balancing and the older absolute dominion view, and still others rejecting any kind of 'reasonable use' or cost-benefit analysis in favor of the older absolute dominion, strict liability view.[7] Moreover, the notion that common law courts everywhere fashioned rules simply to speed industrial development by insulating new, large scale industries from nuisance liabilities does not seem to be borne out by a close look at the cases. For example, in Massachusetts – a state that adhered to the absolute dominion, strict liability approach – plaintiffs enjoyed success regardless of whether pollution came from a traditional, small scale industrial source such as a cesspool, pigsty, privy or slaughterhouse, or a new, large scale industrial source such as a paper mill, iron furnace

or kerosene or petroleum refining plant. (Karsten 1997, pp. 136-137). In New York and New Jersey, where courts employed a balancing test, they loaded the scale in favor of private plaintiffs by tending to presume that if an injury was suffered by one resident then other nearby residents were similarly affected. In Pennsylvania, by contrast, courts implicitly assumed that only the particular plaintiff had suffered a harm (such as damage from factory smoke fumes) that obviously would be general in a locality. (Karsten 1997, p. 139).

C. Early 'Environmental' Law in Europe: History

Although there has been less sustained work on the early role of the courts in pollution control in Britain and continental Europe, the work that does exist tends to show a very similar evolutionary path to that taken by the American law of nuisance. Brenner finds that in England as early as 1608, 'polluters' were held liable for (in this particular example) building a pig sty adjacent to the victim's house and thus creating a stink. (Brenner 1974, p. 405). On Brenner's account, throughout the seventeenth and eighteenth centuries, English judges were ready and willing to find that certain otherwise lawful but noxious trades 'could be closed down and forced to move elsewhere if they were nuisances to the neighborhood,' so that during this period, nuisance had a 'zoning function.' (Brenner 1974, p. 406).

Just as in the United States, however, the judicial response to English industrialization was to significantly modify the test for nuisance. However, although they briefly flirted with such a move, unlike their American counterparts the English

courts did not convert the nuisance test into a test that balanced the benefits from the harmful activity against its costs. (Brenner 1974, p. 411). Rather than such a case-by-case balancing, British judges responded to industrialization by balancing the harm to the plaintiff not against the value of the defendant's activity but against the 'general standard of amenity' prevailing in the local community, and by distinguishing between nuisance actions for physical injury to property and those for physical discomfort and illness. (Brenner 1974, pp. 410, 413). As a consequence, at least according to Brenner, the English nuisance standard became highly localized, so that once an area had become heavily industrialized, with many factories and other industrial polluters, residents could no longer complain that the physical discomforts caused constituted a nuisance.[8] Speaking of the transition from the earlier, categorical nuisance standard, Brenner aptly says:

> It was one thing to close down a smelly tannery and to tell the tanner to move elsewhere or to find another occupation. It was quite another to close down two or three objectionalable factories in a Mersyside town, when the consequences could be disastrous for hundreds or even thousands of people.

With industrialization, nuisance law in England thus no longer played an important role in shaping the location of industrial activity; in a sense, common law judges took those locations decisions as already made – by the market. Instead, nuisance at most influenced incentives in resolving a limited number of pollution disputes involving (relatively wealthy) Lords who suffered harm to their manors or properties as a result of emissions. The bargaining possibilities for low income workers may have been substantially less.

On the European continent, the judicial response to industrial pollution looks to have been something of a hybrid of the American and English approaches. Gordley finds that the law in Germany and France during the industrial era was that 'the defendant will not be forced to stop interfering if his activity is of considerably greater value than the harm done by the interference, and he has picked an appropriate place to carry it on.' (Gordley 1998, p. 19). As the well known Belgian/French author François Laurent opined, under the literal letter of French law 'each proprietor would be able to object if one of his neighbours released on his property smoke or exhalations of any kind because he has a right to the purity of air for his person and his goods,' but if that rule was rigorously followed then the existence of towns would be impossible. (Gordley 1998, p. 19). Under French law, therefore, the test for determining whether there was a nuisance[9] became a balancing test whereby courts gave relief only when the disturbance exceeded that which is 'normal' among neighbouring properties. What is normal was judged by the character of the locality. (Gordley 1998, p. 15). The rule is still the same under French law today: liability under nuisance only exists for 'abnormal' harm, and the 'abnormality' of the harm depends on location specific circumstances. Hence, a certain activity may be considered a nuisance in a residential area, but the same activity would not be considered a nuisance in an industrial area. (Carbonnier 2000, pp. 273-283; Mazeaud 1994, pp. 91-103; Viney 1998, pp. 1063-1086). Under French law, neighbours have to accept a certain degree of disturbance: 'the obligation to accept certain incommodities is indispensable in social life and constitutes a true limitation on property right.'[10] (Mazeaud 1994, pp. 102-103). This quote nicely illustrates that even though French law today awards large protection to neighbours of polluting activities, it is not an absolute protection – a balance

takes place whereby the social benefits of the polluting activity are also taken into account.

A similar line of reasoning is followed in Belgium. The Belgium Court de Cassation holds that the provision with respect to property law in the Civil Code (Article 544) creates a balance between neighbouring properties, so that one property may not cause a reasonable damage to other properties, as this would upset the balance between them. However, it is clearly held that ordinary consequences of the use of one property for other properties should be accepted as long as they do not go beyond the bounds of what might be considered 'reasonable.' (Faure 1999, p. 213). To determine the normal level and kind of nuisance which has to be accepted from the fact that neighbours exercise their property rights, the judge will take into account what is considered normal given the particular location-specific circumstances. (Bocken 1997, p. 145).[11]

The importance of location is particularly clear in German law, which holds in § 906 of the Civil Code (Bürgerliches Gesetzbuch, or BGB) that there is a duty to tolerate emissions, subject eventually to compensation. There is only liability under § 906 (2) BGB when the supposedly substantial interference with the neighbors' rights does not comply with a use of the other land that is common at the location (Eine ortsübliche Benützung des anderen Grundstücks) and could not be prevented by measures which can economically be imposed on the user of the other land (Der Benützer wirtschaflich zumutbar). Hence, under these circumstances the owner of the affected property is bound to tolerate the emission in question. § 906 BGB thus puts the victim of an interference under a rather considerable duty to tolerate that interference when it remains within the limits of the common use of land at that location. (Van Gerven 2000, pp. 192-294).

D. Rethinking the Efficiency of Gilded Age Nuisance Law

Thus, a look at the most recent historical evidence confounds the simple law and economics view that common law judges developed nuisance law as an ex post cost-benefit test that would substitute for private bargaining. Indeed, in our view, the general industrial era judicial reformulation of nuisance as an ex post contingent entitlement rather than a categorical right to be free of harm was likely an efficient response to the unprecedented scale of late nineteenth century industrialization and urbanization.

The first reason for this view is that the vast economic changes made the de facto regulatory system that had been generated by the common law sic utere principle economically inefficient. During what Novak calls the period of the 'well regulated' society, the way that both ex post common law nuisance and ex ante local ordinances dealt with polluting industries such as slaughterhouses and tanneries was by effectively prohibiting those activities from being conducted in certain populated locations. A tannery located near residences or, more generally, a developed area of a town was a nuisance; if it moved to the outskirts of town, the tannery would no longer be a nuisance. Such a regulatory system made perfect economic sense in pre-industrial spatial economies, in which the economically optimal way to eliminate the harm from what would later come to be called pollution was indeed simply to move the polluting industry to a more remote, undeveloped area so that the pollution could disperse into airways or waterways. Dispersion itself lowered or eliminated the harmful effects of pre-industrial emissions.

The scale and scope of industrialization, and the sheer magnitude of the pollution generated, meant that the harm from pollution could no longer be efficiently lowered by

relocating industrial facilities to remote areas. Indeed, given the very real agglomeration economies, spatial industrial concentration was – at least if pollution was reduced to 'reasonable' levels – clearly efficient. The question to ask in evaluating the industrial transformation of nuisance law into a regime of blurry ex post entitlements is not whether it attained some mythical ideal, but whether by adopting some alternative regime courts could have done more to create incentives to reduce pollution toward the optimal level.

The de facto ex post zoning regime created by the old, strict liability nuisance was not only inefficient in the industrial era. Had judges retained it, they would have likely triggered political collective action by industry that would have completely eliminated any judicial control over pollution. The reason is that if judges had stuck with the old, definite entitlement of a landowner to be free of harmful interferences, then they would have been in the position of routinely declaring entire industrial categories, such as steel factories or cotton mills, to be common law nuisances. Given the categorical nature of such a liability regime, any particular nuisance case – involving a particular landowner and a particular industrial facility – would have implicated the interests of <u>all</u> companies owning and operating facilities of that type (e.g. cotton mills). Hence while it certainly would have been possible for the company owning a particular enjoined plant to bargain with the successful plaintiff, another alternative for such a company would have been to communicate with other companies in its industry and begin to lobby the legislature for legislation overturning the judicial decision imposing liability. Indeed, such lobbying would have been almost inevitable; if pollution victims had had a definite entitlement enabling them to enjoin, say, cotton mills from operating, then given the large number of mills, there would have been a correspondingly large number of victims and a

tremendous incentive for individual victims to holdout in bargaining with mills (indeed, even, perversely, to locate near mill operations just to get the right to demand such a payment).

By threatening to issue injunctions that would impact entire categories of nascent industries, courts would have thus quickly prompted industries to lobby legislatures to remove ex post liability entirely. Contrariwise, by moving to adopt a particularistic balancing regime, courts retained some (albeit limited) role for ex post liability. The reason is that under either American-style cost-benefit balancing or the Anglo-European local suitability test, many companies were not subject to common law liability. As winners in the common or civil law liability system, they had no incentive to lobby the legislature to fix the problem by eliminating ex post liability. Of course some companies would lose: under American-style balancing, those which inflicted very large harms relative to their benefits; under the Anglo-European local suitability test, those that either generated actual physical harm or which were located in relatively pristine, non-industrial areas. But since – as the historians suggest – the vast majority of industrial era companies were winners, they had no reason to seek legislative reform.

The historical record reveals that such concerns were very real. In the US there are at least two striking examples of how the form of the common law nuisance entitlement determined private incentives to bargain or instead displace the common law with legislation: the 1870s conflict between gold miners in the Sierra Nevada foothills in California and farmers and towns lying downstream along the Sacramento River and its tributaries who suffered harm from streamborne mining wastes; and Pennsylvania, where one of the most famous of all late nineteenth century nuisance cases, *Pennsylvania Coal v. Sanderson*, pitted the rights of a downstream homeowner against those of a coal mining operation that pumped its mining debris (tailings) indirectly into the stream. (Johnston 2000, pp. 229-236). In both instances, when courts issued rulings that amounted to the creation of categorical property right to pollute (in the California case,

where the miners were awarded the entitlement on the ground that mining activities were prior in time to downstream farming), or to be free from pollution (in Pennsylvania, where the landowner won on the basis of the sic utere principle) those judicial decisions triggered immediate collective political action by the losers (farmers in California, coal mines in Pennsylvania).

Now of course to say that judges preserved a role for ex post liability is not to say that the ex post liability regime was economically ideal. The ideal regime would have been something like a costless, site-specific cost-benefit test that ordered polluters to adopt techniques or technologies to reduce their pollution to the point where the marginal benefit of further reductions was no longer above the marginal cost of such reductions. The legal historians tell us that industrial era judges tended to discount or even completely ignore very real harms from industrial pollution. The cost-benefit regime set up by industrial era nuisance liability was perhaps far from ideal. But the courts did preserve a role, albeit a residual one, for private bargaining to reduce pollution, and in so doing preserved a liability regime which was capable of evolving to become more sensitive to the environmental harm from industrial activity.

III. The Judicial Role in the Twentieth Century Regulatory State

A. The Limits of Local Jurisdiction: Industrial Era Development, Interjurisdictional Pollution and the Evolution of de Facto Pollution Entitlements

So long as common law nuisance remained the dominant source of potential legal liability for pollution, the location of polluting industry in relatively undeveloped areas remained the most cost-effective way for industry to reduce its potential environmental liability. For economic reasons, the enormous steel mills, rubber and chemical factories and oil refineries of fin de siècle industrial America were located on the urban periphery, close to rail lines that connected to the interstate rail network and to national waterways. (Pred 1964). The concentration of industrial activities in suburban industrial zones in cities like Pittsburgh lowered costs and increased productivity, generating what we now call agglomeration economies. Such industrial districts were far from unpopulated; rather, because they had large labor demand, the new industries preferred to locate near densely populated districts. (Hurley 1994, pp. 341-342, 345). Thus even though they were located away from urban centers, new industries such as oil refining and steel manufacture had large environmental impacts, impacts that did not necessarily respect jurisdictional lines. As a general matter, the existing nineteenth century system of regulation by local ordinance and common law nuisance worked well when pollution respected local jurisdictional borders, but collapsed when confronted with interjurisdictional pollution.

In the United States, the most basic reason for the failure of regulation by local ordinance and common law nuisance to control interjurisdictional pollution was inherent in localism: the fact that courts and municipalities had only local jurisdiction. Unless state laws specifically granted such authority (and none did), one municipality had (and still has) no regulatory authority over activities conducted in a different municipality.[12] When pollution generated in one local jurisdiction spilled over borders and polluted another, the jurisdiction that suffered the harm did not have the legal authority to directly regulate the

polluter. Since there was little or no state level pollution legislation during this period, the only legal basis for a lawsuit by a downstream or downwind town against a polluting upstream or upwind neighboring jurisdiction was to assert that the pollution constituted a common law public nuisance. For political-economic reasons, however, state legislatures, were generally not willing to authorize even these common law intrastate, interjurisdictional actions. Without such legislation, state laws effectively gave polluting jurisdictions the right to pollute.

Although a thorough historical explanation has not yet been provided, the evidence that does exist suggests several reasons for the de facto interjurisdictional right to pollute. As for water pollution by municipal wastewater, the big, populous cities that were the primary cause of the problem were also dominant in democratically elected, majority-rule state legislatures. The cities used their political power in state legislatures to preclude not only common law nuisance suits by downstream municipalities but any regulation at all.

A classic example of precisely such a pattern comes from turn-of-the-century Illinois.[13] In 1900, faced with a local public health crisis stemming from its discharge of vast amounts of untreated sewage into the Chicago River and then to Lake Michigan, the source of its drinking water, the city of Chicago came up with the ingenious idea of building a drainage canal, effectively reversing the direction of flow of the Chicago River and carrying Chicago's sewage into the Illinois (and eventually into the Mississippi) River. By 1915, Chicago's massive discharge of organic wastes had altered the biological environment of the Illinois River for hundreds of miles downstream. Chicago, however, was completely insulated from legal liability for the harm caused by its pollution. The

nuisance laws of downstream municipalities forbade contamination of the Illinois River, but such local laws could not be applied to regulate Chicago's wastes, which originated outside the local jurisdictions. The state of Illinois had a very stringent state nuisance law, but Chicago's use of the Illinois River as a waste depository was explicitly exempted from this law. Finally, the otherwise very active statewide Rivers and Lakes Commission (which ordered industrial discharges halted twenty-four times between 1913 and 1916), had an agreement with the Sanitary District of Chicago that precluded it from enforcing in cases involving trade wastes from Chicago. (Colton 1992, p. 198). As historian Craig Colton concludes,

> [t]he continuation of severe pollution was largely the result of a conflicting policy that allowed the Chicago area to use the river with near impunity…the very policy that protected Chicago's potable water supply was incompatible with actions taken to protect the water quality of the Illinois River and indirectly authorized the destruction of public biological resources. The agreements reached between the state and the Sanitary District of Chicago seriously reduced the effectiveness of the state water-quality authority and caused uneven enforcement of water-pollution statutes.

(Colton 1992, p. 209).

It is not clear whether the Illinois legislature's decision to favor Chicago with a right to discharge untreated wastewater was indicative of a general pattern in which state legislatures gave such rights to their states' largest and most populous cities. What does seem clear is that big cities were not always the winners in the state legislative battle, and

that even the biggest cities were sometimes deprived of the legal right to be free of pollution originating in other nearby jurisdictions.

Such a story is illustrated by the late nineteenth century expansion of the oil refining industry in the New York City area.[14] Led by Standard Oil, between 1860 and 1920 the oil refining industry transformed the Newtown Creek area of Long Island and the northern New Jersey shoreline from rural, unspoiled areas of residence and recreation by the wealthy into an integrated industrial district driven by the agglomeration economies of locating near oil refineries. These economies attracted industries that used refined oil or refining wastes – such as varnish and paint manufacturers and fertilizer manufacturers – as well as those, such as chemical companies, that supplied the refineries with sulphuric acid and other inputs.[15] Local residents complained bitterly about noxious odors from the refineries and chemical plants, and in four separate sessions of the New York state legislature, the New York city Board of Health lobbied for the passage of a law that would give local agencies the authority to request a court injunction against nuisances outside their jurisdiction. The law was never passed.

Thus the existing historical evidence suggests that state courts in a very real sense never had a chance to fashion entitlements in interjurisdictional but intrastate pollution disputes: state legislatures acted to grant polluting cities and industries the entitlement to pollute. Of course from a Coasean point of view, the fact that state legislatures gave the entitlement to polluting jurisdictions did not necessarily preclude a polluted jurisdiction from bargaining with a polluting jurisdiction, and offering to pay it to reduce its pollution. Such bargaining does not seem to have occurred. The absence of such bargains

may simply indicate that state legislatures got the entitlements right on efficiency grounds.

To see the potential efficiency of American industrial era interjurisdictional pollution entitlements, consider the problem of municipal wastewater discharge by cities such as Chicago.[16] With industrialization, the amount of untreated municipal sewage and industrial waste discharged into adjacent waterways was so large that water from these streams and rivers was not safe to drink without treatment. By the turn of the century there were 3196 municipal drinking water systems, and eventually filtration and disinfection of drinking water eliminated the public health problem. (Andreen 2003, p. 163). With death rates from typhus falling quickly and dramatically, most cities found that expenditures of large additional amounts on sewage treatment were unjustifiable. (Andreen 2003, p. 178). Indeed, given that most cities had combined sewerage/stormwater systems and uncertain sewage-treatment technology, the contemporary view among engineers at the time was that it was often 'more equitable to all concerned for an upper riparian city to discharge its sewage into a stream and a lower riparian city to filter the water of the same stream for a domestic supply, than for the former city to be forced to put in sewage-treatment works.' (Tarr 1996, p. 125). If these engineers were correct, then when they gave an entitlement to discharge untreated wastewater to municipalities, state legislatures got at least the short-run efficiency calculus right.

Even if initially efficient, however, changes in technology may make a pollution entitlement inefficient. In Europe, industrialization generated the same kinds of far-reaching pollution as in the United States, but of course in Europe interstate pollution

very often meant (and still means) that pollution is international. Given the international nature of much industrial era European pollution, and the lack – during the industrial era – of supranational European regulatory institutions, European industrialization almost necessarily occurred in a legal regime of de facto interjurisdictional rights to pollute. At a time when rivers were used primarily for transportation, drinking water and waste disposal, and when drinking water purification technologies were cheaper and more effective than wastewater treatment technologies, such a regime may have been efficient. For example, the emission of polluted waste water by the outdated Walloon industry in Belgium into the river Meuse originated in the (early) nineteenth century and continues today.[17] This pollution affects primarily downstream water users in the Netherlands. For a long period of time, the Dutch government did not even attempt to bargain with the Belgian government for a reduction in pollution. It seems more than plausible that such a bargain did not occur simply because during this period it was in fact less costly to allow Belgian pollution and have downstream Dutch users filter their drinking water. Now, however, changes in the way that the river is used and in the cost and effectiveness of wastewater treatment technology have made this arrangement economically inferior to one in which a few large emitters in Belgium efficiently abate their pollution.

There is another, somewhat more general reason to be concerned about de facto pollution entitlements: the fact that the injuries caused by such entitlements may be irreversible even in the medium to long term, and that the injury is to a public rather than privately held resource. For example, oil refinery wastes and oil tanker spills eventually destroyed the once legendary oyster beds in Kill van Kull and Arthur Kull along the coast of Staten Island, New York. By the 1890s, however, the wealthy had left the refining

districts, leaving the remaining populations poor and working class. Even if the long run, present value of the damage to the natural capital represented by New York's estuaries and oyster beds had exceeded the cost of reforming the oil industry to reduce or eliminate its pollution, it is not at all clear how the population of oystermen, naturalists and recreationists who stood to benefit from pollution reduction could have amassed the capital necessary to buy the oil industry's entitlement to pollute. By the very fact that the natural capital involved was held in common, subject to public ownership and held subject to the public trust by the state of New York, these oystermen, naturalists and recreationsists did not have private property rights against which to borrow in capital markets to finance a preservation deal.

When state legislatures removed courts from the picture, granting entitlements to pollute to large cities and burgeoning industries, they ignored a crucial asymmetry underlying the pollution of natural resources: the income flows of polluters who use natural assets primarily as a free waste disposal site are independent of the level of pollution and hence are sources of capital to expend in reducing pollution, while the income flows of those who directly harvest the natural products of natural resources are directly determined by the level of pollution and degree of degradation of those assets, and as the degree of degradation and probability of irreversible and permanent loss of resource function increases, the expected value of future income from harvesting and hence the ability to pay of harvesters falls. Indeed, once a resource is badly degraded by pollution, it is likely that even if all pollution is eliminated, the ability of the resource to recover and become a future source of economic value may be simply be too uncertain to act as a source of present-day capital. Unlike other entitlements, the more that they rights

they grant are exercised, the more likely it is that entitlements to pollute may destroy the possibility of efficient bargains to stem pollution.

B. The Judicial Role and the Emerging Shape of Interstate Pollution Entitlements

In the United States, the most significant judicial role in setting interjurisdictional entitlements occurred when the federal courts were called upon to resolve industrial era interstate water pollution disputes. In Europe, the judicial role was negligible until the latter half of the twentieth century, when the passage of the 1968 Brussels Convention on jurisdiction and the enforcement of judgments in civil and commercial matters along with a crucial decision by the European Court of Justice[18] gave national courts a significant role in determining interstate (that is, international) entitlements. Remarkably, in both Europe and the US, when the courts have had a chance to play an important role in determining pollution entitlements in interjurisdictional pollution disputes, they have not granted absolute entitlements to polluters. Instead they have fashioned entitlements that, while recognizing the wrongfulness of upstream pollution, do not go so far as to declare a clear downstream right to be free of pollution. In so doing, the courts we believe, have done what is typically in the interests of virtually every state (or State) that is a party to an interstate pollution dispute: because such actors are sometimes polluters and sometimes the victims of interstate pollution, they desire precisely a legal regime that balances the interests of both sides and relies ultimately upon bargaining rather than judicial order to resolve such disputes.

(1) The American Federal Common Law of Interstate Nuisance

As historian Andrew Hurley has noted, 'historically some of the most environmentally devastated areas in urban America have been situated across state borders from major American cities, for instance, East St. Louis, Missouri and Gary, Indiana.' (Hurley 1994, p. 360). At a time when there was no federal air or water pollution legislation,[19] the sole recourse for a victim of interstate pollution was to sue in federal court, and in particular in the US Supreme Court.

The Court's framework for establishing entitlements in interstate pollution disputes originated in two famous cases. The first involved distant pollution from the city of Chicago's innovative municipal wastewater disposal project discussed earlier. In 1900, the state of Missouri sued the state of Illinois alleging that the Sanitary District of Chicago (a political subdivision of Illinois state) had created a public nuisance by dumping its raw sewage into the Chicago River and ultimately, into the Mississippi, because the contamination carried downstream and caused an increase in typhoid fever in St. Louis, Missouri. (Missouri v. Illinois, 180 U.S. 208). The next year, the Supreme Court heard a case in which the state of Georgia sued on behalf of several individuals who were Georgia residents, and its own interest in protecting its natural resources, seeking to enjoin the operation of three copper smelters located just over the state border in Tennessee on the ground that the smelters were emitting large quantities of sulfur fumes that were harming both the Georgia environment and the health of Georgia residents. (Georgia v. Tennessee Copper Co., 206 U.S. 230).

In resolving these cases, the Court said that it would hold polluters strictly liable, with a seemingly tougher standard when the defendant was a sovereign state (with the plaintiff state being required to show a harm 'of serious magnitude, clearly and fully proved' in such suits (Missouri v. Illinois 200 U.S. 496, 521)) than when it was a private industry (with the plaintiff state allowed to 'stand upon…extreme rights' even at the cost of 'possible disaster to those outside the State' (Georgia v. Tennessee Copper Co. 206 U.S. 230, 239)). During the next three decades, the Court decided three more interstate pollution cases. (Merrill 1997, p. 945). However, in 1972, when interstate pollution litigation was accelerating, Congress passed the federal Clean Water Act and the Court, seemingly happy to get out of the business of resolving interstate pollution disputes, held that by this law Congress had preempted the need for a federal common law of interstate pollution. (Merill 1997, p. 946; Percival 2004, pp. 761-768).

Although the standard view is that the Court had set up a rule of interstate strict liability for pollution, a closer read of the cases where one State sued another State suggest a different rule, one in which the court was attempting to discern the efficiency of alternative pollution levels and pollution control alternatives. In refusing to enjoin Chicago's wastewater discharges, the Court gave significant weight to the fact that St. Louis was doing precisely what Chicago was doing – discharging untreated sewage into its adjacent waterway – and that even if Chicago had not begun discharging into the Mississippi, so many other upstream cities were discharging sewage into the Mississippi that St. Louis would eventually have to install drinking water purification. (Missouri v. Illinois, 200 U.S. 496, 523). In holding for New Jersey in a suit by New York state challenging as a nuisance New Jersey's proposal for a sewer system that would collect

sewage from New Jersey cities located along the Passaic River and dispose of it in upper New York Bay, the Court stressed not only the lack of evidence of harm, but also the fact that New York itself was adding more sewage to the Bay than would be added by New Jersey's project and that New Jersey had proceeded with 'great caution' by designing a state of the art sewage disposal system. (New York v. New Jersey, 256 U.S. 296, 310-312). In short, we believe that the reality of the Supreme Court's federal common law of interstate pollution was not strict liability, but rather a blurry and uncertain balancing test that focused on the reasonableness, given the existing alternatives, of the source State's pollution.[20]

(2) The Role of European National Courts in Resolving Transboundary Pollution Conflicts

A remarkably similar regime of interstate pollution entitlements emerged in Europe during the second half of the twentieth century. Although it was theoretically possible for entitlements to be set under international law, given the high costs of the required lawsuits (before the International Court of Justice) this was not the route to interstate entitlements in Europe.[21] Moreover, unlike the United States, there is no 'federal' court in Europe that can resolve such interstate disputes.[22] Instead, a victim of European interstate pollution must seek relief in the national courts. For obvious reasons, a victim may prefer to sue a polluter in the victim's state.

In an important decision – the so called Bier case[23] – the European Court of Justice held in 1976 that by European treaty,[24] a victim of interstate pollution may sue

either in the courts of the country where the damage occurred, or in the courts for the place of the event which gives rise to and is at the origin of that damage.[25] (Bier v. Mines De Potasse d'Alsace, Case 21/76). A series of Dutch cases decided under the authority of Bier[26] established within Europe (where federal judicial powers do not exist) a regime under which transboundary pollution disputes are resolved through a de facto extraterritorial application of national law to foreign polluters. The substantive content of the interstate pollution entitlement emerging from these decisions is, as in the American federal common law of interstate nuisance, one that involves a balancing of the value of the polluting activity against the harm to downstream victims. In Bier itself (a suit by Dutch market gardeners against a French mining company), the Supreme Court of the Netherlands held that in judging on the liability of the upstream polluter the seriousness and the duration of the damage inflicted on the downstream users has to be taken into account as well as the gravity of the interests served by the discharges. Similarly, in the Hoge Raad decision, the Dutch court held that 'it should be borne in mind that on weighing these mutual interests a special weight accrues to the interests of the user downstream in so far that in principle he may expect that the river is not excessively polluted by large-scale discharges'.[27] (Supreme Court of the Netherlands, 23 Septemper 1988). Another case illustrating such extraterritorial pollution control is a suit that pitted NGO Reinwater (the Netherlands) against Cockerill NV, a large manufacturing company situated in Belgium in the neighborhood of Liège. The defendant Cockerill emitted directly into the river Meuse. In determining the lawfulness of Cockerill's discharges, the president of the Court of Maastricht (the Netherlands) asked whether Cokerill's discharges exceeded a 'reasonable limit,' and to determine what might constitute such a

limit, looked to Netherlands regulatory standards for emissions like Cockerill's.[28] (President of the Court of Maastricht, 3 February 1993).

There are a number of factors that might explain the relatively uncertain and blurry approach taken by European national courts to transboundary pollution disputes. As did the US Supreme Court in Missouri v. Illinois, European national courts have recognized that most countries are both polluters and victims of pollution, making a clear right either to pollute or be free of pollution relatively unattractive. For instance, while Belgium was for a long time the water 'polluter' vis-à-vis downstream Netherlands, the reverse was also true: during the 1980s, Belgium complained that the Netherlands was awarding export permits to brokers in hazardous waste who shipped the Dutch contaminated soils to the Netherlands. (Lavreysen 1995). Hence, whereas Belgium may have been a polluter in the wastewater case, the Netherlands may have been one in the soil contamination transport case.

Second, in seeking to resolve transboundary pollution disputes, European national courts were performing at most a gap-filling role in the European system. Many European directives, such as the Directive 76/464 of 4 May 1976 concerning discharges of certain dangerous substances in the aquatic environment, deal with transboundary externalities such as transboundary water pollution. (Directive 76/464, 1976). But such European directives do not themselves provide entitlements to resolve disputes between private actors of different countries. European environmental law is implemented indirectly, through directives that are binding on each Member Mtate but which give Member States the freedom to choose the form and method of national legislation necessary to implement the directive. Had Directive 76/464 been fully implemented in

Belgian law, Belgian environmental administrative authorities would have been obligated to impose more stringent conditions in the permit of Cockerill. However, a directive cannot be invoked in a conflict between private companies or citizens if that particular directive has not yet been implemented in national legislation. The courts in the Dutch cases therefore correctly held that since Directive 76/464 had not been implemented into Belgium law it could not furnish a rule of law to decide the particular case.[29]

On the other hand, especially in the transnational case, national courts are exceedingly reluctant to themselves determine the substantive entitlement of citizens of their own country to be free of pollution from another nation. In the SOPAR case, the Courts of Appeals of The Hague forced the Belgian polluter to comply with the conditions of its permit (which were clearly violated), thus relying on the prior expertise of the administrative agency.[30] (Court of Appeals of the Hague, 19 November 1992). The president of the Court of Maastricht in the Cockerill case tried to establish whether the emissions by Cockerill were 'reasonable' even though Cockerill had complied with the conditions in its Belgian permit. In the Supreme Court decision against the Alsacian salt mines (MDPA), a reasonable test was used but the Court clearly used a variety of sources[31] to establish that the discharges by the MDPA were clearly wrongful.

In the end, resolution of transnational pollution disputes by European national courts seems to have led, as in the American interstate nuisance cases of the early twentieth century, to considerable uncertainty as to relative entitlements, but such uncertainty has in turn seemed to induce bargaining and settlement. Both in the case of the River Rhine and the River Meuse, today important steps have been taken towards efficient emission reductions as a result of bargaining.[32]

C. Positive Economic Observations Regarding the Judicial Role in Resolving Transboundary Pollution Disputes

What are the objectives of courts when they seek to resolve transboundary pollution disputes? One thing that virtually every American Supreme Court Justice agreed upon during their years of attempting to resolve interstate pollution disputes was that they did not like being put in the position, as unelected federal judges, of determining the relative entitlements to pollute or be free from pollution of quasi-sovereign states.[33] In other words, what the Justices seem to have most wanted was not to have to ultimately decide such interstate disputes, but rather for the States themselves to bargain and reach agreement on reducing interstate pollution spillovers. The judges of European national courts seem to have felt very much the same way. The Dutch cases illustrate some of the strengths and weaknesses of the role of the courts in remedying transboundary pollution cases: on the one hand, Dutch courts prevented foreign polluters from continuing to externalize harm to downstream river users; on the other hand, such national courts were reluctant to set pollution entitlements given the existence of EC and Member State laws that already had done or could (and should) have done so.

Given the informational advantage of regulatory authorities and administrative agencies over judges, there is indeed a strong economic argument in favor of having standards in these types of complex transboundary pollution cases set through regulation rather than via liability rules.[34] Still, as we have seen, the absence of a centralized regulatory authority has put judges in the position of having to decide transboundary

disputes. One may well ask whether the rather uncertain entitlements that judges have de facto created in such situations are or are not an economically efficient instrument for the resolution of such disputes.

Our earlier analysis would seem to imply that such entitlements were indeed efficient, at least in terms of creating incentives for conflicting jurisdictions to bargain to resolve their interstate (or international) pollution disputes. For that analysis predicts that uncertainty can create an incentive for parties to bargain to reach agreement. On this analysis, judicially crafted environmental entitlements may have played an important role in facilitating the decentralized (between States, as opposed to federally mandated) reduction of interstate pollution. Perhaps most importantly, the often heard criticism of judicial allocation – that courts do not possess the technical resources and capability to resolve complex issues of environmental and natural resource regulation, so that such problems should be left to legislatures and regulatory agencies[35] – may be inapt. The inexpertness of courts may indeed generate uncertainty, but that uncertainty may create incentives for the parties with superior information – the States – to resolve their disputes via bargaining.

This application of the earlier analysis may be a bit too hasty and optimistic. After all, that earlier analysis was of how uncertain entitlements may improve bargaining incentives for profit (or utility) maximizing / cost minimizing <u>private</u> actors. The relevance of that model to bargaining by public entities, such as cities or States, is not obvious. As revealed in considerable detail by ongoing work in the theory of public choice, democratic governments elected by majority rule (of one form or another) may be perfect democracies and yet make decisions that are inefficient, decisions that would not

be made by a single profit maximizing or cost minimizing economic agent. Still, although we cannot here offer a formal proof, we believe that the various economic pathologies that may beset the decisions taken by majoritarian legislatures argue in favor, rather than against, the kind of uncertain interjurisdictional entitlements that the US Supreme Court fashioned in its interstate pollution cases.

We begin with the standard assumption that industrial pollution in general involves diffuse costs to local public health and the local environment but concentrated benefits to the industry that gets to use public resources as a free waste receptacle. With this assumption, consider the two alternatives to balancing: a clear entitlement to pollute, or a clear entitlement to be free of pollution. Consider first the rule of no liability for pollution – an entitlement to pollute awarded to polluting states (or, more generally, jurisdictions). The risk in such entitlements is that they will not be efficient and yet will not be bargained around; the polluted jurisdiction will not buy out the polluting jurisdiction, paying it to reduce its pollution. As argued earlier, because of the difficulty or outright impossibility of capitalizing the present value of reducing pollution (because pollution reduction increases the value of public assets – public health and environment – that unlike private assets do not generate easily quantifiable future revenue streams) efficiency in interjurisdictional pollution buyout decisions is unlikely even without worrying about the special problems of bargaining by sub-national governments. Still, if as posited the majority of voters would benefit from a pollution buyout, then there is no inherent public choice obstacle to such a buyout. That is, such a buyout would inherently have majority support.

Now consider the opposite rule: an interjurisdictional entitlement to be free of pollution. Under this rule, the risk to efficiency is that the polluting jurisdiction will not buy back the entitlement from the neighboring jurisdiction even though the value of pollution is greater than its environmental cost. Under our assumption about the distribution of the costs and benefits of pollution within each jurisdiction, however, it is unlikely that the polluting jurisdiction will fail to buy the right to pollute. After all, if the benefit of pollution is concentrated within the industry that generates the pollution, then the polluters might well agree to simply finance the buyout themselves, so that there would be no need for a public buyout, and public choice problems would be irrelevant. Thus one kind of public choice failure – majoritarian opposition to an efficient policy – could be overcome through private action. As for the other type of public choice failure – pursuit of a project that generates concentrated benefits but whose costs can be diffused over a majority – it risks too many buyouts on behalf of polluting industries rather than too few. Hence there would seem little cause to worry that jurisdictions would be unable to bargain around an inefficient interjurisdictional entitlement to be free of pollution.

To be sure, there are constraints on public entities not captured by this simple analysis, such as the potential legal inability of local governments to make interjurisdictional money transfers, and these would complicate the story by increasing bargaining costs. (Merill 1997, pp. 973-984). Still, putting aside such complications, our analysis suggests that insofar as we have a classic pollution problem – where pollution generates concentrated benefits but imposes diffuse costs – there is no reason to think that local governments would be any more prone to bargaining efficiency than are private actors. However, as explained above, private bargaining under definite entitlements <u>is</u>

likely to involve serious inefficiencies of bargaining delay and other forms of strategic behavior. Given the fact that governments bargain as relatively complex, politically accountable institutions, such strategic bargaining inefficiencies are even more likely in interjurisdictional bargaining. Hence if uncertain entitlements tend to reduce strategic bargaining delay and other inefficiencies in private bargaining, then they should have an even greater impact in reducing strategic inefficiencies in interjurisdictional bargaining.

IV. The Courts in an Era of Federalization

The present day American environmental regulatory world bears little resemblance to the world of the nineteenth or even the early twentieth century. Both common law nuisance and state legislation and local legislation have receded in importance. To many people, American environmental regulation means federal environmental regulation. In turning to Congress rather than the States, environmentalists of the 1960s and 70s were simply reflecting the dominant view about federal-state relations that prevailed from 1945 until 1980: that any serious change in policy could only be effectuated by the federal government.[36] In this preference for federal action, Environmentalism was but another form of Regulatory Centralism – the view that in any hierarchical governmental system, the regulatory ideal is to transfer as much authority as possible to the highest level of government.

Environmentalists enjoyed unprecedented success. For those accustomed to legislative gridlock, it is worth recalling that within just a few years, Congress passed the National Environmental Policy Act,[37] the Clean Air Amendments,[38] the Federal Water

Pollution Control Act Amendments,[39] the Federal Environmental Pesticide Control Act,[40] the Marine Mammal Protection Act,[41] the Noise Control Act,[42] the Coastal Zone Management Act,[43] and the Endangered Species Act of 1973.[44] It is fair to say that twenty-first century American environmental law is primarily federal. But this is not to say that all federal environmental regulatory schemes are the same. There is indeed significant variation among the various federal statutes, and variation too in the role that the courts have played in determining the way that environmental regulatory federalization has played out. Indeed, the role of the courts in American environmental federalization has been paradoxical: on the one hand, the courts have been an important forum for citizen participation in federalized American environmental governance; on the other hand, the courts have actively encouraged environmental federalization even at the expense of likely more effective state and local regulation.

As in the US, in most European countries, the 1970s was a period during which many environmental laws were enacted. (Seerden 1996). But at the level of the European Community, there was as yet no formal legal authority, or competence, to issue environmental regulatory measures. Eventually, however, the European Commission found the authority for environmental regulation in Articles 100 and 235 of the EEC Treaty. Article 100 allowed for European measures to harmonize national legislation in order to remove or prevent barriers for the internal market. Article 235 to the contrary was the (limited) legal basis for issuing legislation with a 'pure' environmental goal stating that if action by the community should prove necessary to obtain one of the objectives of the Community and the Treaty has not provided the necessary powers then The Council shall, acting unanimously, on a proposal from the Commission and after

concerting the European Parliament, take the appropriate measures. The ECJ broadly interpreted Article 235 in 1985, stating that that environmental protection is one of the Community's essential objectives. (ECJ 7 February 1985). However, only with the entry into force of the Single European Act in 1987 was the EEC Treaty revised to include provisions (Articles 130r-130t) that specifically authorize the EC to promulgate environmental directives.[45] Since then, the European authorities have increasingly used the competences granted to them by these Articles to issue a great many directives with respect to environmental policy.

As a result of this European activism with respect to environmental policy, a large part of domestic environmental law in the Member States today is effectively European law. This is true in the sense that national environmental law in the EU Member States today largely consists of European environmental directives which have been implemented (transposed) into national law. As European environmental law is effective only indirectly, through Member State environmental laws which have come into being or been revised to meet European standards, the actual strength of European environmental law also crucially depends upon the enforcement of EC environmental law by the Member States.[46] Still, the ECJ has played an increasingly important role, most strikingly, perhaps, in the landmark decision in the Francovich case of 19 November 1991, where the ECJ held that under certain circumstances citizens who have suffered damage as a result of a lack of implementation by a Member State can be entitled to compensation for this damage by the Member State concerned. (ECJ 19 November 1991). This decision creates a form of potential liability for Member States of the EU that goes far beyond the constitutionally permissible liability of American states.

A. The Courts and the Constitution: Encouraging Federalization and Discouraging Subnational Environmental Governance

Many state constitutions in the United States and the constitutions of many other nations expressly guarantee environmental rights,[47] and the constitutional courts of nations with express constitutional protection for the environment have used their privileged position in constitutional interpretation to play a very active substantive role in environmental policymaking.[48] In the United States, by contrast, not only is there no federal constitutional environmental right, but the primary constitutional provisions impacting environmental regulation have been those that protect private property and determine the boundaries of federal versus state and local regulatory authority. In cases involving environmental regulation, the US Supreme Court (as well as lower federal courts) have interpreted these provisions in a rather confused and unsystematic way. While there are signs that this may be changing, over the period 1970-2000 the net result of judicial decisions in cases involving the constitutionality of environmental regulation has been to diminish any constitutionally protected sphere of state and local regulation by authorizing virtually unlimited (and sometimes exclusive) environmental federalization. This trend has been enhanced by the Supreme Court's 'regulatory takings' doctrine, a (somewhat blurry) constitutional rule that requires governments to compensate private landowners for lost market development value caused by environmental regulation whenever the lost development value caused by such regulation is large.

To explain these legal trends, it is important to first get a brief glimpse of the broad pattern of American federal environmental regulation from the point of view of regulatory centralization versus decentralization. The first thing to recognize is that American federal environmental regulation is not targeted at interstate pollution. This is paradoxical from an economic standpoint, because a fundamental result in public economics is that economic activity that has only local effects should be regulated locally. Only economic activity that generates externalities that spill across jurisdictional borders requires regulation by some supra-local regional or national regulatory authority.[49] The federal environmental laws passed in the heyday of the Environmentalist era, however, were targeted almost entirely at localized air, water and groundwater pollution. Indeed, when the federal laws were passed, interstate pollution was not even recognized as a problem. For instance, interstate transportation of sulfur dioxide emissions – the acid rain problem – was not identified as a problem until years after the Clean Air Act was passed, and was not effectively regulated under that law until it was amended in 1990 to create a national sulfur dioxide emissions trading system. (Dwyer 1995, p. 1220).[50] Unlike acid rain, the paradigmatic problems dealt with by the Environmentalist era federal environmental laws – waterway pollution by municipal sewage and industrial waste, urban smog (urban air pollution due primarily to automobile emissions), safe drinking water standards, strip mining land reclamation, hazardous waste site cleanup, even the protection of wetlands from development – all involve primarily local rather than interstate spillovers.

This mismatch – a national response to essentially local problems – has been criticized on a variety of grounds. (Butler 2000; Adler 2005; Schoenbrod 2005). One

such criticism is that the extension of federal regulatory authority to cover local pollution and natural resource development is unconstitutional as beyond Congressional power to regulate interstate commerce. (Epstein 1987, p. 1442). If one were unfamiliar with the way that the Supreme Court has interpreted Congressional commerce clause authority to regulate, then one would probably conclude that the regulation of localized pollution or land development activities has nothing to do with interstate commerce and is therefore beyond Congressional authority. When confronted with such arguments, however, the Supreme Court has had little difficulty in finding a connection, albeit often tenuous and creatively imagined, between local pollution and interstate commerce.[51] Following the Supreme Court's lead, federal courts have in general had an easy time justifying the constitutionality of federal environmental regulation. Sometimes they found a connection between interstate markets and local pollution in the theory that local pollution is caused by interstate competition for mobile capital (the interstate race-to-the-bottom); at other times they have said that an activity such as hazardous waste disposal has an aggregate effect on interstate commerce, even though individual instances of disposal do not.[52]

Of course, over the period 1940-1995, American federal courts rarely if ever said that any set of activities were beyond the constitutional limits of federal regulatory authority. Throughout this period, the federal courts acted as if they were advocates for, rather than judges of, the constitutionality of federal regulatory expansionism. Indeed, in the Supreme Court's jurisprudence over this period, the significance of the constitutional authorization of the federal regulation of interstate commerce was not that the clause limited federal powers, but that state regulations interfering with the development and operation of interstate markets were themselves unconstitutional. Under this

interpretation of the Commerce Clause – known as the 'dormant commerce clause' in American constitutional law – the Supreme Court struck down as unconstitutional state laws that limited the importation of solid municipal and industrial waste into the state (City of Philadelphia v. New Jersey, 437 U.S. 617; Fort Gratiot Sanitary Landfill, Inc. v. Michigan Department of Natural Resources, 504 U.S. 353) and local laws that required local disposal of locally generated solid waste (C&A Carbone, Inc. v. Town of Clarkstown, N.Y., 511 U.S. 383). The Court reasoned that such state and local laws had effectively created barriers to the interstate market in solid waste. As a factual matter, this is correct. An interstate market in solid waste disposal clearly exists: waste from the densely populated state of New Jersey, for example is carried by truck and rail for disposal in large, 'mega-landfills' located in the less densely populated states of Pennsylvania and Ohio. Hence if states like Pennsylvania try to ban the importation of waste and states such as New Jersey prevent solid waste export, they obviously interfere with the interstate market in solid waste disposal.

Such state and local laws, however, were designed to achieve local self-sufficiency in solid waste disposal. In the 1980s, at a time of widespread concern that landfill capacity would soon be exhausted, there was indeed a national goal of encouraging subnational governments to assume responsibility for local disposal of locally generated solid waste. By encouraging (even forcing) subnational governments in land-poor states such as New Jersey to find alternatives to land disposal of solid waste, waste import and export bans were a way to achieve that goal of waste disposal self-sufficiency. Prominent among alternatives to land disposal were waste reduction and recycling, which were generally viewed as superior to landfilling on environmental

protection grounds. But there is plenty of room for landfills in states that are less densely populated, and due partly to the advent of strict federal regulation, there are significant economies of scale in solid waste landfill construction and operation. Beginning in the 1990s, the cheapest way for New Jersey towns to dispose of their municipal waste was to transport it out of state, for disposal in landfills located in the relatively land-rich states of Pennsylvania and Ohio. This interstate disposal option severely weakens the incentive for New Jersey towns to reduce and recycle. Hence by ruling that the federal constitution forbids state and local laws banning solid waste import and export, the Supreme Court has essentially made impossible the once national goal of creating local incentives for the reduction and recycling of municipal solid waste.

Taken together, the Supreme Court's commerce clause and dormant commerce clause cases reveal that the Court's primary objective in interpreting the federal Commerce Clause has nothing to do with environmental protection, which the Court does not even realize as a distinct national policy.[53] Instead, the Court's overriding objective in this (as in most every other) area of constitutional interpretation is to further the development of the interstate, national market. From this vantage point, federal environmental regulation, while often misguided, is at least superior to subnational regulation because it replaces what might otherwise be a welter of varying and sometimes conflicting state environmental laws and regulations with a system based on nationally uniform, technology-based standards. Such nationally uniform standards decrease the transaction costs of interstate industrial expansion and are, on this view of the world, desirable. Even if arguably more environmentally protective, subnational environmental regulation is inherently suspect, not only because subnational variation increases

regulatory compliance costs for business, but because of the strong suspicion that subnational environmental laws and regulations are actually a disguised form of local, trade protectionism.

Of course, one might argue that there was nothing that the Supreme Court could have done to avert or slow the pace of federalization anyway. If in passing one after another federal regulatory statute, Congress was simply doing what the vast majority of American voters wanted, then if the courts had tried to hold such statutes unconstitutional, Congress and the people would have either amended the Constitution – perhaps to add a provision specifically authorizing federal environmental legislation of a particular sort, as occurred in Germany[54] – or taken actions to diminish the constitutional authority of the courts. Or perhaps such judicial intervention was unnecessary, because the American political system itself creates political incentives that limit federal regulatory intrusions into matters where the states and localities really do want to preserve their regulatory autonomy.

Questions such as these continue to occupy American constitutional theorists. In the meantime, the Supreme Court has taken a new look at its jurisprudence on the authority of Congress to regulate interstate commerce, and has decided that there are after all some limits on Congressional commerce clause power. (United States v. Lopez, 514 U.S. 549). Most importantly for purposes of this essay, the Court has decided that the federal Commerce Clause does not provide carte blanche authority for federal environmental regulation. Recently, in Solid Waste Association of Northern Cook County *(*SWANCC*)*, the Court held that the mere fact that intrastate wetlands isolated from navigable waters happened to provide habitat for birds which crossed state

boundaries in their annual migrations did not provide a sufficiently strong nexus to interstate commerce to provide constitutional justification for federal regulation of wetlands development. This decision is itself ironic, in that while many local development decisions do not have interjurisdictional spillover effects, the aggregate effect of local decisions to develop wetlands causes a loss of habitat that seriously impairs the health of migratory bird populations, generating a negative externality that crosses not only state lines but also national borders. Indeed, federal natural resource regulation may fairly be said to have begun with the 1906 Migratory Bird Treaty between the United States, Great Britain (of which Canada was then still a part) and Mexico. However ironic it may be, for purposes of this essay the most significant thing about the SWANCC decision is it has been viewed by federal regulators as restricting their regulatory jurisdiction, putting the regulation of the development of isolated wetlands (that is, wetlands that are not sufficiently closely connected to navigable waters) back in the hands of subnational regulatory authorities. The clear lesson carried by this case is that if it proceeds in a suitably cautious and case by case way, the Supreme Court can indeed impose federal constitutional limitations on the scope of federal environmental regulation, limitations that do not trigger an attempt to amend the constitution to create something like a federal constitutional right or to somehow replace or reform the Supreme Court.

It might seem that advocates of regulatory decentralization should be happy about the Supreme Court's recent work. Such a conclusion would be much too hasty. The reason is that the federal constitution provides (in the so-called taking clause of the Fifth Amendment) that private property shall not 'be taken for public use, without just

compensation.' Just as the Court has rediscovered constitutional limits on federal environmental regulatory authority, it has construed the constitutional 'just compensation' to mean that if environmental regulation imposes a sufficiently severe limitation on private land development opportunities, then such regulation may itself constitute a taking that requires government compensation.[55] Roughly speaking, under this constitutional doctrine – known as the regulatory takings doctrine – if an environmental regulation so restricts development that it causes a very large fall in a parcel of land's market value, then the private landowner must be compensated. Under this test, requirements that landowners set aside some land to provide protected habitat for endangered species have generally not triggered the compensation requirement, because usually the amount of land set aside is small relative to the total size of the owner's holdings – say, for instance, 100 acres out of 1000 total – thus leaving the landowner with plenty of development value. By contrast, because it is quite often true that an entire parcel will be a wetland that cannot be developed, wetlands preservation requirements often constitute takings that require the landowner to be compensated. (Findley 2003, pp. 913-915).

The constitutional requirement that private landowners be compensated when environmental regulations go too far in limiting their development opportunities is likely to have a bigger impact on subnational environmental regulation than on national, federal environmental regulation. The reason is that it is much more difficult – politically, legally and economically – for subnational governments to pay compensation than for the federal government to do so. In the US, state and local governments typically are not constitutionally permitted to run deficits. Hence when required to compensate

landowners for the lost market value caused by environmental regulation, such subnational governments either have to reduce spending in other areas, raise taxes, or borrow. But all of these options raise the same general problems discussed in Part __ above: even if the regulatory restriction on land development is efficient, raising taxes or cutting spending in order to find the money to pay compensation may be opposed by the majority of local voters, opposition that cannot typically be overcome due to the transaction costs of effecting transfer payments; borrowing to pay compensation encounters the fundamental problem that lenders are reluctant to lend for projects – such as preserving a wetland – that do not generate a steady stream of future financial returns. The US federal government faces none of these legal, political and economic constraints. The federal government has a vast budget and can borrow (apparently) indefinitely to finance large and growing budget deficits. Given the size of the federal budget and the federal deficit-financing capability, the compensation obligation generated by an even an extremely active federal environmental regulatory agency could easily be lost in the federal budget, and would add an immeasurably small amount to annual federal borrowing needs.

Thus considering the ability of different levels of government to actually finance compensation requirements, the compensation requirement erected by the Supreme Court's regulatory takings doctrine should disproportionately chill subnational versus national environmental regulation. The Court may indeed be ready to impose constitutional limits on the scope of federal environmental regulation, but at the same time is has significantly increased the cost of environmental regulation to subnational regulators.

B. The ECJ's Role in Resolving Conflicts between National Environmental Self-Sufficiency and the Efficiency of the European Market: A More Pro-Environmental Balance than that Struck by the US Supreme Court

Like federal environmental law in the US, a striking feature of European environmental directives is that many of them do not deal with transboundary or interjurisdictional pollution problems, but (like the mentioned Directive 76/464 concerning the discharge of dangerous substances into the aquatic environment) with problems that involve either both local and transboundary pollution, or even entirely local pollution.[56] Like US federal environmental law, European regulation aiming at localised pollution problems has been criticised from an economic perspective. (Faure 1998, pp. 169-175; Faure 2001, pp. 263-286).

Of course the ECJ is not directly responsible for such 'overcentralisation'; it is rather the European Commission and the Member States (brought together in the Council of Ministers) that decide to regulate pollution problems at the European level, even if the economic rationale for doing so may be lacking. Still, in a number of decisions, the ECJ has either interpreted European environmental competencies broadly or more generally facilitated the enforcement of European environmental directives against member states. There is for example the aforementioned Decision of 7 February 1985 whereby the ECJ stated that environmental protection is one of the Community's essential objectives, thereby justifying Community action for the environment. (ECJ 7 February 1985). Perhaps even more significant is the principle of direct effect, according to which a

directly effective provision of European law can be called on by anyone who has an interest to do so in his own national legal system against his Member State. If the time limit given for the implementation of the directive was exceeded and the provisions of the directive are unconditional and sufficiently precise an individual can directly invoke the provisions of such a directive, which then take priority over national law.[57] In subsequent decisions, the ECJ has given the principle of direct effect the basis for enforceable sanctions against Member States. The Francovich Decision of 19 November 1991 opened the possibility of state liability towards individuals for damage resulting from a lack of implementation of European law. Two years later, the ECJ imposed a financial penalty on Greece for having failed to take necessary measures to comply with an earlier ECJ judgment of 1992. (Case C-387/87, 2000). Additional enforcement teeth have been added by the decision of 13 September 2005, whereby the ECJ held that directives can contain an obligation for Member States to criminally sanction non-compliance with domestic legislation that implements a European directive. As we discuss below, this has provided the basis for the creation of a European (environmental) criminal law.

Although all of these (and many other) decisions could be viewed as evidence that the ECJ has attempted to further shift regulatory authority to the European level, it must again be emphasized that European law (unlike federal law in the US) is not directly enforceable against citizens or enterprises. The only way European law works is via implementation by the Member States. Hence, the case law of the ECJ is largely only an attempt to guarantee an effective enforcement of European law against the Member States, for example by sanctioning their lack of implementation (through a doctrine of direct effect or Francovich – state liability). The primary decision to shift powers to the

European level with respect to a particular topic is taken by the European legislator, i.e. the European Commission and the Council of Ministers. There is, however, one area in which the ECJ has clearly been the dominant actor: its case law on determining when national environmental protection measures by Member States are inconsistent with the Treaty's overriding goal of European economic integration. Like the US Supreme Court in its Commerce Clause cases, the ECJ is the authoritative institution in deciding whether Member State laws and regulations violate the goal of economic integration in the European Union. The basis for this case law can be found in the EC Treaty. According to the provisions of article 28 and following of the EC Treaty, all quantitative import restrictions and measures having equivalent effect are prohibited. A Member State can therefore not impose a blanket restriction on or prohibit the importation of various products on the ground that they are polluting. Such restrictions may be justified by one of the various public interest exceptions created by the Treaty itself.[58] If such a restriction fails to fall under such an exception, then the ECJ judges its legality under a 'rule of reason' which permits national laws which may have an effect on the free movement of goods 'in so far as these provisions may be recognised as being necessary in order to satisfy mandatory requirements'. (Case 120/78 1979).[59] To survive scrutiny under this test, national trade-restricting measures must 1) apply in a non-discriminatory way to both national and imported products, 2) create a mandatory requirement; and 3) have a trade-restricting impact that is proportionate to the interests that need to be protected by it. (Case 120/78. 1979).

In applying this rule of reason test, the ECJ has clearly placed important weight on the overriding EC Treaty goal of freeing the European market from trade restrictions.

But it has also given weight to the interest of Member States, and perhaps the Community as a whole, in having Member States take responsibility for their own pollution. In this, the ECJ has been significantly more pro-environmental than the US Supreme Court. In an early application of the rule of reason test, the Danish Bottles case, the ECJ held that Denmark's mandatory system of returnable containers for beer and soft drinks could be justified under 'environmental protection' even though that system had trade restricting effects. (ECJ 20 September 1988). In 1990, the ECJ modified its rule of reason inquiry in a strongly pro-environmental way when it reasoned that even though a ban on the importation of foreign waste imposed by the Dutch Walloon region was clearly discriminatory, it was nonetheless justified by the principle of 'preventive action at [the] source'.(Case C-2/09, 1992). The ECJ's ruling that the principle of preventive action at source – essentially a waste self-sufficiency principle – effectively had priority over the freedom of trade and non-discrimination principle was heavily criticised. Critics argued that not only was it questionable whether the Walloon measure met the proportionality requirement, but by allowing these import bans, such an application of the prevention at source principle could cause the loss economies of scale in waste transportation and disposal. (von Wilmoswki 1993). Perhaps in response to such criticism, in 1996 the ECJ reaffirmed that the goal of free trade within Europe could trump the prevention at the source principle when, in the Dusseldorp case, it invalidated export restrictions on oil filters imposed by the Dutch government. (Case C-203/96, 1998). The ECJ found that the clearly trade restrictive nature of the law outweighed the Dutch government's justification that the Dutch enterprise responsible for waste management (AVR Chemie)

could only operate in a profitable manner if a sufficient supply of waste could be guaranteed.[60]

The ECJ ruling in the Dusseldorp case seems to make sense from an economic perspective. By forcing all producers of used oil filters to use the facilities of AVR Chemie, the Dutch law did indeed promote local waste self-sufficiency. On the other hand, producers were prevented from using cheaper alternatives abroad and were forced to pay monopolistic prices for waste treatment by AVR Chemie. The Dusseldorp decision of the ECJ thus can be seen as a way of exposing high cost facilities like AVR to competition and enabling producers to look for more cost effective alternatives on the competitive European market.

C. Preventing an Environmental Race to the Top: US Judicial Preemption of Federal Common Law and Subnational Environmental Regulation

Just as the courts have interpreted the federal constitution's Commerce Clause so as to encourage and enable environmental federalization, so too have they interpreted federal environmental statutes to preempt state and local regulation, even when federal statutes did not expressly mandate such preemption. The effect of these decisions has often been to replace developing systems of subnational or common law environmental governance with no governance at all.

Perhaps the best known example of such implied judicial preemption is the Supreme Court's decision that the passage of the federal Clean Water Act preempted both the federal and state common law of interstate water pollution. (Milwaukee v. Illinois, 451 U.S. 304; International Paper v. Ouellette, 479 U.S. 481). As recognized by the dissenting justices in the first of these cases, Milwaukee v. Illinois, the Court thereby made it impossible for states with strict water quality standards to require polluters in neighboring states who discharged into shared, interstate waterways to comply with those same standards. The effect of this decision was that states had only to require their polluters to meet technology-based federal water pollution standards. These standards are uniform within industrial classes (for example, all kraft paper mills must meet effluent reduction standards that can be achieved by installing a particular set of currently available end-of-pipe pollution reduction devices). Essentially, the Supreme Court held that unless their home states required more, such federal technology-based standards were the only ones that interstate water polluters needed to meet.

The effect of this highly contestable (indeed, as a matter of statutory interpretation, quite weak) interpretation was to prevent an interstate race-to-the-top in environmental standard-setting. Here is how the race-to-the-top dynamic might have worked. Had the Court said that Congress had not preempted federal and state common law of interstate pollution, then states with tough environmental standards would have gone to court seeking to impose their tough standards on polluters located in neighboring states. While such clean states might not have succeeded in getting their standards applied to out-of-state polluters, as we have seen, the federal common law of interstate pollution involved a relatively blurry balancing test that would almost surely have

generated incentives for interstate polluters in environmentally lax states to do more than their own states required. Of course, not all polluters in a particular industry in a particular state are located on an interstate, boundary waterway. Those who are – such as New York state pulp and paper mills located on Lake Champlain, bordering the state of Vermont – would, as a consequence of the common law of interstate water pollution, now face tougher standards than would New York pulp and paper mills located on New York waterways that were wholly intrastate. Polluting industrial firms with operations located on interstate waterways would then be at a competitive disadvantage relative to firms with wholly intrastate operations. The interstate polluters therefore have a very strong incentive to actively lobby their state legislatures to toughen environmental standards for everyone in their industry. Whenever interstate polluters were significant economically to a state, one would guess that the state legislature would eventually do just that. The common law of interstate pollution would have set in motion a process leading to tougher state pollution standards.

The Supreme Court's reply to this hypothetical dynamic might well be to argue that even if such a race-to-the-top occurred, it would lead to a maze of differing state standards that would be a barrier to interstate industrial activity, and in conflict with Congressional intent to have federal regulation of interstate water pollution. But the only federal regulation of interstate water pollution is that which comes about through the nationally uniform, technology-based water pollution standards imposed on point sources of water pollution. The EPA has a regulation that forbids point sources from pollution discharges that violate the ambient water quality standards of another state with whom it shares a waterway, but it is generally impossible to establish that a single point source's

discharge in one state causes poor water quality in another state (typically downstream),[61] and there is no known instance in which the federal environmental agency has actually required a polluter in a 'dirty' state to cut its pollution because such a reduction is required by the water quality standards of an adjoining 'clean' state. Similarly, while there was once an interstate federal common law of air pollution (the Georgia v. Tennessee case discussed above), for over two decades, the only effect of the federal Clean Air Act was to eliminate any control over interstate air pollution.[62] While it is true that there is now the interstate sulfur dioxide (acid rain) pollution permit trading program mentioned earlier, as well as a regional trading program in permits to emit ozone and nitrogen oxide, the acid rain trading program has provided relatively little benefit to the downwind states who suffer most of the harm from sulfur dioxide emissions, while the other trading programs cover limited regions and are in any event too new to yet evaluate. In short, what the Supreme Court did when it eliminated the federal common law of interstate pollution was to leave victims of interstate pollution with an entitlement only to that level of pollution reduction mandated by nationally uniform technology-based federal standards. Rather than spurring a race-to-the-top, the control of interstate pollution was yet another occasion to require only the lowest common denominator in environmental compliance.

The Clean Water Act is not, unfortunately, the worst example of preemption of state and local environmental regulation. The most egregious example of judicial intervention that thwarts state and local environmental competition is surely judicial interpretation of the federal Noise Control Act (NCA) to preempt state and local regulation. These decisions have effectively turned the 'Noise Control' law into a 'no

Noise Control' law. The NCA gave the federal Environmental Protection Agency (EPA) power to regulate a vast array of manufactured products, to require labeling for noisy consumer goods, as well as authorizing enforcement mechanisms from citizen suits to criminal prosecution and fines. (Lief 1994, p. 621). The new legislation had the potential to change manufacturing standards for products in a broad range of industries including aviation, railroads, trucking, motorcycles, automobiles, industrial equipment, and home and workplace appliances.[63] These standards were national standards, and explicitly precluded state and local regulations of manufactured products that were not 'identical' to federal rules. (42 U.S.C. § 4905 (e)(1)(A)). Local rules ostensibly were still permitted to regulate licensing, use, and movement of these products to control environmental noise. (42 U.S.C. § 4905 (e)(2)).

The federal EPA, however, promulgated very few noise emission standards, and the few that were approved merely codified the status quo without imposing stricter standards. (Senate Report 1983, p.1). This very modest start of federal noise regulation ended abruptly in the early 1980s, when the presidential administration of Ronald Reagan withheld funding and closed EPA noise offices. (Suter, p. D3; Rauch 1981, p. 1051). The decision to phase out NCA activities was based on a 'determination that the benefits of noise control are highly localized and that the function of noise control can be adequately carried out at the State and local level. . . .' (Senate Report 1983, p. 2). This apparent return to local regulation, however, was quickly undone by the federal courts, which in a series of decisions during the 1970s and early 1980s found that in spite of its lack of funding, the NCA continued to preempt state and local noise regulation. (City of Burbank v. Lockheed Air Terminal, Inc., 411 U.S. 624). The end result of such judicial statutory

interpretation has been that (as one commentator predicted in 1981), 'the current [federal] regulations apparently will go unenforced, but local authorities will be prevented from stepping in.' (Rauch 1981, p. 1051).

D. Effects of centralisation of environmental policy in Europe

One might be tempted to analogize the pre-emption of state and local environmental regulation in the US to the shifting of environmental competences to European central authorities. It is indeed true that after a European directive has dealt with a certain matter (e.g. shipment of hazardous waste), national Member States not only have an obligation to adopt their environmental laws to the contents of the directive but – unless the directive specifically provides otherwise – Member States actually lose the power to take independent legal action with respect to that same area. However, similar to the American doctrine of implied pre-emption, if the ECJ finds that if the area concerned has not been regulated by a European directive in an exhaustive manner,[64] then a Member State may issue additional legal measures. (ECJ 5 April 1979). But, again like the American doctrine of pre-emption, if a European directive exhaustively regulates an area, then Member States lose their power to issue additional regulations, outside of the measures of discretion allowed for by the directive.

Despite these similarities, there are some notable differences between preemption of state and local regulation by federal environmental statutes in the US and the shifting of environmental competences to central authorities in Europe. In Europe there is no risk comparable to that such as noise control in the US, where powers would be shifted to a

European agency which would preempt national environmental law, but then the European agency would not act, leaving no regulation. To begin with, there is no such thing as a European regulatory enforcement of environmental law.[65] In environmental matters the European Commission does not dispose of inspectors to check whether the law is actually applied on the ground. However, a consequence of a regulation of a specific area at European level is precisely the duty of the Member State to implement this piece of European law. The danger in Europe is hence not so much that Europe would take specific powers and preclude Member States from regulating in the same area (while Europe hypothetically does nothing) but rather the reverse: Europe may for example promulgate a directive with respect to transboundary air pollution but Member States may fail to implement this directive. The real weakness of the European environmental law is precisely the potential failure of implementation by the Member States.

For this reason, the risk of regional protectionism via centralized environmental standards – where states with tough environmental standards use centralized environmental law to force their standards upon states (generally less developed ones) with more lax regulation – is perhaps less of a risk in Europe than in the US. To recall, in this story of environmental regulation as regional protectionism, interest groups in areas which are already heavily regulated (and probably heavily polluted) may have incentives to extend their strict (national) regulations to the European level, thus forcing foreign competitors to follow the same regulation with which they already comply. The result is that industry will lobby to erect barriers to entry. In addition, green NGOs will be pleased

with this lobby and often support the demand to transfer strict national standards to a European standard. (Vogel 1995, pp. 52-55).

There is ample evidence of such interest group behavior, for example in the context of the European Directive on Integrated Pollution Prevention and Control. (Faure 1996, pp. 112-122). Had this directive aimed to achieve a harmonization of ambient environmental quality across Member States, then given that location-specific circumstances may differ systematically across nations, facility-specific emission limit values needed to reach a similar quality would of course differ as well. Such a directive would have been to this disadvantage of industries in countries that already have strict facility-specific emissions limits, such as Germany. Precisely as predicted by this analysis, in the negotiations leading to the Directive on Integrated Pollution Prevention and Control, industries in heavily regulated countries such as Germany opposed an ambient environmental quality-based approach, while those in countries with systematically different hydro-geological conditions, such as the UK, favored such an approach.[66] As with US federal environmental laws, interest groups in more heavily industrialized, and heavily regulated countries have generally prevailed at the European level, with the IPPC (and other European) directives providing for the harmonisation of emission limit values rather than ambient environmental quality standards. (Faure 1998, pp. 169-175).

The political-economic story that has played out in Europe over the choice between uniform, industry-specific emission limits versus ambient environmental quality standards is thus very similar to that which has occurred in the US. One may question, however, whether the game had quite the high stakes in Europe that it has had in the US.

Unlike the US, where there is a federal regulatory agency, the EPA, backed by the US Department of Justice, that is in a position to take over the job of both writing and enforcing facility-specific permits, in Europe there is no comparable European regulatory agency with the police power to conduct facility-specific inspection and then undertake enforcement actions in court. For this reason, even facility-specific emission limits may not really help polluters in the most heavily regulated European countries, since the enforcement of those standards in less heavily regulated countries is ultimately in the hands of domestic, rather than centralized European enforcement authorities. Hence it may be that the desire of the more heavily regulated Member States for such site-specific standards may well be something done in the expectation of the future development of a centralized, European environmental regulatory agency with full enforcement authority.

E. The Ambiguous Judicial Role in Re-localizing Environmental Governance Through Environmental Contracts and Environmental Justice

Two of the most significant recent developments in American environmental governance are the use of environmental contracts as an alternative to conventional command and control regulation, and a focus on environmental justice. Environmental contracts are facility-specific agreements between regulators and firms under which regulators promise regulatory flexibility and forgiveness in exchange for firms' promises to do more than existing regulations require.[67] In the United States, environmental contracts are typically highly localized, in that great attention is given to local environmental impacts, while state and local environmental regulators and local (as

opposed to national) NGO's actively participate in the negotiation of the agreement.[68] Environmental contracts have been motivated by the widespread perception that the existing American environmental regulatory system – the core of which consists of uniform, media-specific technology-based pollution standards – is too inflexible to allow tradeoffs across media (for example, a little more air pollution in exchange for a big reduction in water pollution) that are both economically efficient and hugely beneficial to local environments. Similarly, the American environmental justice movement arose from the perception that the regime of technology-based standards did not pay sufficient attention to where highly polluting facilities were located, and in particular to the systematic tendency for hazardous and solid waste disposal facilities to be located in minority neighborhoods. (Bullard 1990). As we already mentioned above, in Europe environmental contracts have also become increasingly popular both in legal doctrine and in practice. (Environmental Law Network International 1998). We already indicated that for example concerning transboundary rivers environmental contracts have been concluded whereby large emitters, NGOs and governments agreed to emission reductions.

Interestingly, although both environmental contracting and environmental justice ask environmental regulators to pay much more attention to local environmental impacts, the role of the courts differs dramatically in these two institutional reform movements. Environmental contracts are intended to be legally binding contracts between a regulated firm and a variety of local, state and federal regulators. For example, under a hazardous waste site redevelopment (so-called Brownfields) agreement, a private developer agrees to do some site remediation and to install groundwater monitoring, in exchange for

regulatory promises that the site can be developed (typically into an office building with an appurtenant parking lot) without risk of further regulatory cleanup requirements. Similarly, in a habitat conservation plan under the federal Endangered Species Act, a private land developer agrees to set aside a portion of his land as protected habitat for an endangered species, in exchange for regulators' promise that they will not require any more land to be dedicated to species preservation (at least barring extraordinary circumstances). From the point of view of a private developer, a crucial feature of an environmental contract is the legally binding character of the regulatory commitment to allow the development to proceed if certain steps are taken, and to not require any further steps. Developers want not just a political commitment from regulators, but a legal commitment. Such a legal commitment can exist only if courts will be ready and willing to enforce the environmental contract.

Hence in the US, judicial recognition and enforcement of environmental contracts is vital to their importance as instruments of environmental governance. Unfortunately, the courts have also been the place where opponents of environmental contracts have enjoyed their greatest success in impeding their use. National environmental groups – which play a relatively minor role (or no role at all) in the negotiation of local environmental agreements – have succeeded in persuading at least some courts that environmental contracts are inconsistent with or actually authorize violations of existing command and control laws and regulations. In California, for instance, where much of the most valuable remaining developable land happens to provide habitat for endangered species, national environmental NGO's such as the Audubon Society have persuaded the courts that even habitat conservation agreements negotiated pursuant to specific statutory

authorization in federal and state endangered species protection laws are invalid unless the parties have prepared a full environmental impact statement (EIS). (San Bernadino Valley Audubon Society v. Metropolitan Water District, 71 Cal. App.4th 382). National environmental groups have likewise challenged EPA's Project XL agreements as allowing violations of rigid, technology-based pollution standards. The problem in each instance is that the procedural and substantive requirements of the existing, dense set of federal environmental laws and regulations are rigidly uniform across geographic places, and do not contemplate the kind place-specific deals affected by environmental contracts. From a political-economic perspective, national environmental NGOs' comparative advantage is in litigating and negotiating over standard-setting with the federal EPA. Because it may greatly reduce the significance of national standards, the move to localism represented by environmental contracts threatens to greatly reduce the influence of national environmental NGOs. It is unsurprising that such groups – whose primary place of activity has been the courts – have used the courts to slow the rise of environmental contracts.

Centralized European institutions have also been critical of environmental contracts in Europe. European NGOs have complained that environmental contracts have often been concluded between industry and the regulating authorities without an adequate opportunity for public participation. The European Commission has equally examined whether obligations arising from European environmental law could be implemented via environmental contracts. In a communication, the Commission questioned whether there could be sufficient certainty of implementation when an environmental directive would only be implemented in a Member State through an environmental contract. Questions

have arisen as to whether such a contract could be made binding for the entire industry and what would happen in case of a violation of the contract by one of the parties. In general the European Commission has therefore shown little enthusiasm for the use of environmental contracts to implement EU law.[69] (Communication on Environmental Agreements, 27 November 1996).

Unsurprisingly, in the US the environmental justice movement has also found little direct help from the courts. The federal mandate to consider whether environmentally undesirable facilities are being disproportionately located in minority communities is not found in any federal environmental statute, but rather in an Executive Order issued by President Clinton. (Executive Order 12898). Implementation of that Executive Order has, however, been spotty; a recent government report has found that EPA 'devotes little attention to environmental justice' in promulgating new Clean Air Act regulations. (General Accounting Office July 1005). Lacking any basis in the environmental statutes, environmental justice plaintiffs attempted to persuade the federal courts that Title VI of the Civil Rights Act prohibits facility citing decisions that have a disparate impact on minority communities, but although the federal EPA was receptive to such an argument, (Interim Guidance 1998), the Supreme Court ruled that Title VI did not authorize such private lawsuits. Alexander v. Sandoval, 532 U.S. 275, interpreted and applied in South Camden Citizens in Action v. New Jersey Department of Environmental Protection, 274 F.3d 771).

Still, despite the fact that there is neither a statutory nor constitutional entitlement to be free of discrimination in the siting of noxious facilities, the old common law rule of nuisance, together with federal regulatory standards, has given environmental justice

plaintiffs what is in effect a very uncertain entitlement to be free of pollution. And however uncertain it may be, such entitlement has been enough of a threat to induce several large polluters to effectively buy the right to pollute by buying homes from and relocating nearby minority communities. Black residents of Norco, Louisiana, for example, suffered for decades from a variety of respiratory problems as a consequence of millions of pounds of emissions of hazardous chemicals from Shell Oil's Norco refinery. Although the residents failed to persuade a civil jury that Shell's operations in Norco constituted a common law nuisance, they did succeed in persuading Shell to buy the homes of any resident who wished to relocate out of the effected area. (Motavalli, Toxic Targets; Muhich 2002). Such buyouts seem to be common: a recent journalistic report from the heavily polluted Houston, Texas area reports that since 1995, four large petrochemical companies have bought out over 1,000 nearby residents. Exxon Mobil alone has spent $21 million over the past twelve years, purchasing over 400 homes in a community adjacent to their Baytown facility. (Cappiello 2005).

The environmental justice movement has fared much differently in Europe, but not through decisions by either the European Union or the ECJ. Instead, the European Court of Human Rights (ECHR) has been the most important forum for environmental justice advocates in Europe. (Boyle 1996). This court was established under the European Convention of Human Rights, a convention which was drafted in the context of the Council of Europe.[70] Article 8 of this Convention formally only guarantees the right of private life and family life, but the ECHR has interpreted this provision that broadly so that the concept of 'private life' in article 8 also embraces the physical and psychological integrity of a person as well as a right to personal development and self-determination.

(Heringa 2006, pp. 9-23). Over the last ten years, the ECHR has broadened the application of Article 8 of the Convention even further, so that it now encompasses claims that are essentially claims of environmental injustice. Article 8 effectively now provides a remedy to victims of environmental pollution who have exhausted all remedies within their own national system and more particularly to those who, mainly for financial reasons, often had no possibility to move away from their homes located next to polluting facilities. Through Article 8, the ECHR has developed a nuisance-like remedy that seems almost perfectly tailored to fit claims of environmental injustice.

The elements of this remedy emerged in one of the first cases in which the ECHR applied Article 8 to environmental pollution, Mrs. Lopez Ostra v. Spain. (ECHR 9 December 1998). There the court opened by stating that 'naturally severe environmental pollution may affect individuals' well-being and prevent them from enjoying their homes in such a way as to affect their private and family life adversely, without, however, seriously endangering their health,' thus clarifying that Article 8 might well remedy situations not covered by health-based national environmental laws. The focus of the court's inquiry was whether the Spanish national authorities took the measures necessary to protect Mrs. Lopez Ostra's rights to respect for her home and for her private and family life under Article 8. The court found that the family had borne the nuisance caused by the neighboring plant for 3 years before moving after it became apparent that the situation could continue indefinitely and Mrs. Lopez Ostra's daughter's pediatrician recommended that she move. The court therefore held that under these circumstances the municipality did not offer a complete redress for the nuisance and inconveniences to which Mrs. Lopez Ostra and her family had been subjected. Although the court

mentioned that of course there is a margin of appreciation left to the respondent state, it showed little hesitation in concluding that 'the state did not succeed in striking a fair balance between the interest of the town's economic well-being – that of having a waste-treatment plant – and the applicants effective enjoyment of her rights to respect for her home and her private and family life.' The court therefore held that Spain failed to meet its positive obligations to protect the applicants right under article 8 and that article 8 therefore had been violated.

In subsequent decisions, the ECHR has extended the reasoning in the Lopez Ostra case to grant monetary remedies for plaintiffs who have suffered localized nuisance-type harms as a consequence of living next to environmentally dirty facilities, both those that have been sited in accordance with national law, and those that were improperly sited even as a matter of national law.[71]

Not every environmental justice applicant succeeds under Article 8,[72] but particularly for low income people living in the vicinity of polluting activities, the ECHR case law based on article 8 of the Convention may constitute an important remedy.

F. The Courts and Criminalization

A final dramatic change in American environmental law over the past decade has been the increasing frequency of criminal enforcement of federal environmental laws. In 1994, for example, the Department of Justice (on behalf of the federal EPA) brought criminal charges against 250 individual and corporate defendants, resulting in the collection of $36.8 million in criminal fines and the imposition of 99 years of jail

sentences for individuals. (Glicksman 2003, p. 971). In 2000, an employer who ordered one of his employees to clean out a tank containing sodium cyanide without wearing safety gear was sentenced to a 17 year prison term and ordered to pay $6 million in restitution. (Glicksman 2003 p. 978, citing Buente 2001, p. 1 1342.). Criminal enforcement necessarily means a decision to remedy environmental violations in the courts rather than through administrative law proceedings. Most of the criticism – and it has been substantial in amount and vigorous in tone – of criminal environmental enforcement has focused on expansion of individual criminal liability to impose such liability either on simple strict liability grounds (for 'knowingly violating') environmental laws) or on grounds of ordinary negligence. (Solow 2002).[73]

Although there is no systematic empirical evidence as of yet, it seems that the majority of criminal environmental prosecutions in the US have been by federal, rather than state or local prosecutorial authorities. The explanation for this, we believe, is to be found in the fact that at all sub-national governmental levels, American prosecutors are elected politicians. It is one thing for a political prosecutor to bring a civil case against a local polluter, seeking damages or an injunction, but quite another for that prosecutor to attempt to hold such a polluter and its 'responsible corporate officers' criminally liable. Only in cases of the most egregious nature – with conduct clearly evincing an intent to cause harm or revealing gross indifference to the risk to health or the environment – could one imagine a local prosecutor seeking to hold a local businessman (and his firm) criminally liable for environmental harms. If this is true, then the relative indifference of federal prosecutors to local political consequences suggests that American environmental criminalization is part and parcel of American environmental federalization.

These remarks are to be sure quite speculative, and really are in the nature of a tentative hypothesis to be formalized and tested. In such empirical investigation, it might be very useful to compare patterns of environmental criminal prosecution – at different government levels – in the US with patterns in other nations.

Recent developments in Europe promise to provide precisely the kind of cross-national variation in environmental criminal law regimes that will provide the basis for such investigation. With environmental criminalization, it was the European Commission that took the initiative in 2001 with a proposal for a directive on the protection of the environment through criminal law. (Presented on 13 March 2001, COM (2001) 139 final). The draft directive contains an obligation for Member States to create criminal offenses if certain conditions are met and Community environmental law is violated. The goal of the directive is to cure the general enforcement deficit that is perceived to exist with respect to environmental directives. The Commission appears to believe that if Member States were required to have potential criminal sanctions as a threat for environmental non-compliance with national environmental laws that implement European directives, then the implementation of European environmental law in the Member States would improve.[74] Interestingly, 2 years later another branch of the EU, the Council of Ministers, adopted a so-called Framework Decision on 27 January 2003 on exactly the same topic.[75] (Council Framework Decision 2003). The fact that two parallel texts were presented with respect to the same topic of course caused a serious inter-institutional conflict. While the details of its resolution by the ECJ are somewhat tangential to our focus in this essay (Case C-176/03, 13 December 2005), the end result was that the ECJ not only affirmed the competence of the European Commission in the

environmental regulatory area, but – by giving the Commission what is in effect a blank check to recommend criminal law as a remedy for any matter belonging to the competence of the Commission – set the stage for the full scale development of European criminal law. (Comte 2006).

This centralized European decision provides an interesting test case, because unlike American federal crimes, which are prosecuted by federal US Attorneys in federal courts, European Council Decisions and Directives must be implemented, if at all, by Member State governments. 'European' environmental crimes will be prosecuted, it at all, only by national prosecutors. There are important differences between American and European criminal models, such as the criminal prosecutorial powers exercised by prosecutors in the different European countries[76] and the availability of administrative penal sanctions in some European systems. Still, if one were to observe great reluctance among Member States to implement and then enforce a further European directive on environmental crimes,[77] it would add further support to the conjecture that environmental criminalization is more likely in centralized than decentralized systems.[78]

V. Concluding Remarks

We have attempted to analyze the role of the judiciary in two seemingly entirely different legal systems, the US on the one hand and the European Union on the other hand. Such a comparison is, repeating the quote by Krämer in the introduction, 'necessarily misleading.'[79] There are of course large differences between the two systems; indeed even in the language one notices the dangers of comparison. For

example, when an American scholar refers to 'national standards,' he refers to federal standards as compared to local or state standards; for a European scholar a 'national standard' necessarily refers to a standard set by the national Member State as opposed to either a local or a European standard.

Being aware of these difficulties, we have nevertheless attempted to look at the role of the judiciary in the development of environmental law, more particularly in the steady historical shift from local entitlements to centralized standards. For the US, it is relatively straightforward to identify the role of various courts in both setting local entitlements and in a more centralized regulatory regime. For a number of reasons, it is far more difficult to identify the separate role of the courts in the evolution of European environmental law. First, one must specify whether the institution of interest is some national court within a Member State or instead the European Court of Justice. Second, one has to realize that European law and therefore the ECJ are still relatively recent phenomena and that the role of the ECJ is still a relatively limited one compared to the role of federal courts in the US. Basically the ECJ decides conflicts between various EU institutions and Member States and decides (and moreover interprets) whether particular institutional instruments (of either Member States or EC institutions) are compatible with EU competences as laid down in the Treaty. The ECJ has no direct jurisdiction over citizens or enterprises and in that sense (different than the federal Courts in the US) a citizen will not be confronted with the ECJ when it comes to resolution of conflicts.

Despite these institutional differences, there are interesting, and we believe significant, economic and political parallels in the role played by the courts in the centralization of environmental regulation in Europe and the US. In both the US and in

Europe, courts have played an important role in facilitating industrialization by relaxing older absolute entitlements to be free of pollution. On the other hand, neither in Europe, nor in the US would it be fair to argue that courts in the nineteenth century moved to the opposite, an absolute entitlement to pollute. In both continents there is evidence in the case law that courts engaged in a balancing test that considered (at least) both the location of the polluting activity and the potential benefits it could generate. Although this attitude of the courts may in some cases effectively have provided incentives for efficient bargaining (as predicted by economic theory) the cases were bargaining did take place may have been limited. There is some evidence based on the nineteenth century English cases that those who could afford it indeed bargained with neighboring polluters to either reduce pollution where efficient preventive measures were possible or to be compensated for their harm. However, for large parts of the population situated in industrial areas in both Europe and the US, there is little evidence of bargaining around what amounted to a de facto right to pollute.

The failure of a regime that relied upon localized entitlements and (perhaps) bargaining became especially obvious as the scope of the pollution problem expanded with industrialization. Industrial era pollution routinely crossed the boundaries of local towns and villages, but neither in the US nor in Europe do such local jurisdictions possess extraterritorial regulatory authority over polluters in an adjacent locality. In addition, industrial areas typically had so many similar polluters that it was difficult or impossible to single out any particular polluter as the legal ‘cause’ of harm. It was thus logical that by the end of the nineteenth century one could see the first ‘environmental’ statutes emerge both in Europe and in the US.

It is of course when externalities cross state borders that it becomes especially important to shift powers to a regulatory level which has jurisdiction over a territory large enough to adequately deal with the problem. (Rose-Ackerman 1992, pp. 164-165). The US Constitution (which extends federal judicial power to controversies between a state and citizens of another state) provided the basis for the US Supreme Court to fashion a federal common law of interstate pollution entitlements. In Europe, EU law was not originally available to cure interstate externalities, but national courts (for example in the Netherlands) applied national (Dutch) law to interstate pollution, using a convention granting them jurisdiction in these cases. Although these cases may have provided a remedy in some individual conflicts, a more general, structural solution in Europe only came about when the EU set standards for transboundary environmental pollution via EU directives.

In both Europe and the US, we believe it is clear that centralized environmental laws go far beyond regulating transboundary pollution problems, and instead directly regulate which are fundamentally localized air, water and groundwater pollution. From an economic perspective both US federal and European environmental law are much more extensive than might possibly be necessary to cure an interstate externality or prevent the interjurisdictional race to the bottom. Neither the ECJ nor the US federal courts created such vast, unwarranted centralization[80] – central legislatures did that – but neither did they do much to limit or control environmental regulatory centralization. As we have seen, in both Europe and in the US, the (central) courts have struck down as unconstitutional (or as violating the European Treaty) state (or national Member State) environmental laws that impose too large a burden on interstate trade. The ultimate

efficiency of those judgments depends very much on the specific circumstances. It may well be that the ECJ's Dusseldorp decision prevented national authorities from shifting all waste streams to one monopolistic waste treatment facility, so that the decision promotes economies of scale and competition. On the other hand, the US Supreme Court's cases promoting the interstate market in waste have almost surely cut local incentives to reduce and recycle solid waste. While efficiency effects may be unclear, what does seem clear to us is that by promoting the market for the transboundary shipment of waste, the Supreme Court and the ECJ have made it more difficult for states (or Member States) to pursue the goal of becoming self-sufficient in waste production and disposal.

Another adverse consequence of the pro-federalization stance of the US courts is that by broadly implying the preemption of state and local environmental laws by federal environmental laws, the US federal courts have created a situation where when federal regulations are not adequately enforced, there is no longer the possibility of that state and local regulators will step into the gap. In the EU, it is instead the reverse problem that arises in the sense that since the EU has no EPA with enforcement powers it is dependent upon Member States who implement and subsequently enforce European law. The danger therefore in Europe is not so much that Europe would 'preempt' national law, but rather that Member States would (for a variety of reasons) decide not to implement or enforce European law. The fact that European law depends for its effectiveness upon enforcement by the Member States is by many considered as the most important weakness of European environmental law today. This contrasts sharply with the US where the federal

EPA has direct enforcement power and can (at least in theory) if necessary control directly environmental quality in the States.

Given the different institutional structure, our analysis equally made clear that in Europe environmental standards are not merely defined by one institutional system or court, but rather that a complex variety of different legislators and courts at various levels play a role. For example, the Dutch cases concerning transboundary water pollution showed how national judges may use European law to discuss the lawfulness of emissions by foreign polluters. Moreover, victims who cannot get satisfaction within either the member state or the EU still have the possibility of arguing that their exposure to polluting activities constitutes a violation of the right to private life guaranteed by Article 8 of the European Convention on Human Rights.

These different institutional structures and differing roles of the courts also suggest that they may equally explain differing institutional features of environmental law and policy, such as for example the role of public participation or the role of the criminal law. We conjecture that a tendency towards the criminalization of environmental law is likely to be stronger in centralized than in decentralized systems. The recent decision of the ECJ of 13 December 2005 granting powers to the Commission to harmonize criminal law seems to confirm that trend. However, this and many other related issues still merit further research. Indeed, the differing approaches toward environmental policy in the US and Europe and the differing role of the judiciary in the two systems are undoubtedly a very fruitful ground for many future research projects.

REFERENCES

42 U.S.C. §§ 4901-4905.

Adler, J.H. (2005), 'Jurisdictional Mismatch in Environmental Federalism', N.Y.U. Envtl. L. J. **14**, 130.

Alexander v. Sandoval, 532 U.S. 275 (2000).

Amendola, G. (2004), 'Need for a Strengthening of Criminal Environmental Law', in F. Comte and L. Krämer (eds), Environmental Crime in Europe: Rules of Sanctions, p. 177.

Andreen, W.L. (2003), 'The Evolution of Water Pollution Control in the United States – State, Local, and Federal Efforts, 1789-1972: Part I', Stan. Envtl. L. J. **22**, 145.

Arkansas v. Oklahoma, 503 U.S. 91, 111-112 (1992).

Axelrod, R. S., N. J. Vig and M. A. Schreurs (2005), 'The European Union as an environmental governance system', in R. S. Axelrod, D. L. Downie and N. J. Vig (eds), The Global Environment, Institutions, Law and Policy, second ed., Washington, US: C.Q. Press, pp. 200-224.

Ayres, I. and E. Talley (1995), 'Solomnic Bargaining: Dividing a Legal Entitlement to Facilitate Coasean Trade', Yale L.J. **104**, 1027-1119.

Betlem, G. (1993), 'Civil Liability for Transfrontier Pollution, Dutch Environmental Tort Law in International Cases in the Light of Community Law', London: Graham and Trotman.

Bier v Mines De Potasse d'Alsace, Case 21/76, European Court Reports 1976, 1735, Common Market Law Reports, 1977, 284.

Bocken, H. (1997), 'The Compensation of Ecological Damage', in P. Wetterstein (ed.), Harm to the Environment: the Right to Compensation and the Assessment of Damages, Oxford: Clarendon Press.

Boyle, A. and M. Anderson (eds) (1996), Human Rights Approaches to Environmental Protection, Oxford: Clarendon Press.

Brandl, E. and H. Bungert (1992), 'Constitutional Entrenchment of Environmental Protection: A Comparative Analysis of Experiences Abroad', Harv. Envtl. L. Rev. **16**, 1.

Brenner, J.F. (1974), 'Nuisance Law and the Industrial Revolution', J. of Legal Stud., **3** (2), 405.

Buente, D. and __ Thomson (2001), 'The Changing Face of Federal Environmental Criminal Law: Trends and Developments – 1999-2001', Envtl. L. Rep. **31**, 11340.

Bullard, R. (1990), Dumping in Dixie: Race, Class and Environmental Quality.

Butler, H. and J. Macey (2000), Using Federalism to Improve Environmental Regulation.

C&A Carbone, Inc. v. Town of Clarkstown, N.Y., 511 U.S. 383 (1994)

Cappiello, D. and D. Feldstein (20 January 2005), 'In the Buffer Zone', Houston Chronicle, available at http://www.chron.com/CDA/ssistory.mp1/special/04/toxic298501.

Case 120/78 Revue-Zentral AG v. Bundesmonopol Verwaltung für Branntwein (Cassis de Dijon), ECR 1979, 649.

Case C-2/90 Commission v. Belgium, ECR 1992 I-4431.

Case C-203/96, Chemische afvalstoffen Dusseldorp BV et al. v. Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer, judgement of 25 June 1998, ECR, 1998, I-4075.

Case C-387/97, Commission v. Greece, 2000, ECR I-5047.

Case C-176/03, decision of 13 December 2005.

Carbonnier, J. (2000), Droit Civil 3: Les biens, monnaies, immeubles, meubles, 19th ed., Paris: Presses Universitaires de France.

City of Burbank v. Lockheed Air Terminal, Inc., 411 U.S. 624 (1973).

City of Philadelphia v. New Jersey, 437 U.S. 617 (1978).

Coase, R. (1960), 'The Problem of Social Cost', J. Law & Econ., **2**, 1.

Colton, C.E. (1992), 'Illinois River Pollution Control, 1900-1970', in L. M. Dilsaver and C. E. Colton (eds), The American Environment: Interpretations of Past Geographies.

Communication on Environmental Agreements, 27 November 1996, Official Journal 1996 L 333, p. 69.

Comte, F. (2003), 'Criminal environmental law and Community competence', European Environmental Law Review, pp. 147-156.

Comte, F. (2006), 'Environmental Crime and the Police in Europe: a panorama and possible paths for future action', European Environmental Law Review, pp. 190-231.

Cooter, R. (1982), 'The Cost of Coase', J. Legal Stud., **11**, 1.

Council Framework Decision 2003, 80/JHA of 27 January 2003, OJ 5 February 2003, L29/55.

Court of Appeals of the Hague, 19 November 1992, Tijdschrift voor Milieuaansprakelijkheid (Environmental Liability Review), 1993, vol. 5, 132-134.

di Frederico, G. and C. Gauneri (1988), 'The Courts in Italy', in J. Waltman and K. Holland (eds), The Political Role of Law Courts in Modern Democracies 153.

Directive 76/464, Official Journal 1976, L 129/23.

Directive 76/160, Official Journal 1976, L31/1.

Directive 80/778, Official Journal 1980, L229/11.

Directive 92/43, Official Journal 1992, L206/7.

Doherty, M.G. (2003), 'Hard cases and environmental principles: an aid to interpretation?', in H. Somsen e.a. (eds.), Yearbook of European Environmental Law, vol. III, Oxford: Oxford University Press, 57-78.

Dominick, R.H. III (1992), The Environmental Movement in Germany: Prophets and Pioneers, 1871-1971.

Dwyer, J.P. (1995), 'The Practice of Federalism under the Clean Air Act', Maryland L. Rev. **54**, 1183.

ECHR 19 February 1988, Guerra v. Italy, Reports 1998-I.

ECHR 9 December 1998, Lopez Ostra v. Spain, A303-C, Maastricht Journal of European and Comparative Law, 1995, 196-204.

ECHR 2 November 2006, Giacomelli v. Italy, APPL 59909/00, Nederlands Juristenblad, 2007, 285.

ECJ 5 February 1963, Van Gend & Loos, Case 26/62, ECR, 1963, 341.

ECJ 5 April 1979, Ratti Case 148/78, ECR, 1979, 1629 and ECJ 14 October 1987, Commission v. Denmark, Case 278/85, ECR, 287, 4069.

ECJ 7 February 1985, Procureur de la République v. Association de défense des brûleurs d'huiles usagées (ADBHU), Case 240/83, ECR 1985 p. 531.

ECJ 20 September 1988, Commission v. Denmark (Danish bottles) case, 302/86, ECR, 1988, p. 4607.

ECJ 19 November 1991, Andrea Francovich and Danila Bonifaci e.a. v. Italian Republic, Joint Cases C-6/90 and C-9/90, ECR 1991, p. I-5357.

Environmental Law Network International (ELNI) (ed.) (May 1998), Environmental Agreements: The Role and Effect of Environmental Agreements in Environmental Policies, London: Cameron.

Epstein, R. (1987), 'The Proper Scope of the Commerce Power', Va. L. Rev. **73**, 1387.

Executive Order 12898, 3 C.F.R. 859 (1995).

Farrell, J. (1987), 'Information and the Coase Theorem', J. Econ. Perspec., **1**, 113.

Faure, M. and J. Lefevere (1996), 'The draft Directive on Integrated Pollution Prevention and Control: an economic perspective', European Environmental Law Review.

Faure, M. (1998), 'Harmonisation of environmental law and market integration: harmonising for the wrong reasons?', European Environmental Law Review.

Faure, M. (1999), 'Environmental Liability in Belgium', in K. Deketelaere and M. Faure (eds), Environmental Law in the United Kingdom and Belgium from a Comparative Perspective, Antwerp: Intersentia.

Faure, M. (2001), 'Regulatory competition versus harmonisation in EU environmental law', in D. Esty and

Faure, M. (2004), 'European environmental criminal law: do we really need it?', European Environmental Law Review, pp. 18-29.

Geradin, D. (ed.), Regulatory competition and economic integration, Oxford: Oxford University Press, 263-286.

Fiaschel, W. (1996), Regulatory Takings: Law, Economics and Politics.

Findley R.W. et. al. (2003), Cases and Materials on Environmental Law, 6th ed.

Fort Gratiot Sanitary Landfill, Inc. v. Michigan Department of Natural Resources, 504 U.S. 353 (1992)

General Accounting Office (July 2005), 'Environmental Justice: EPA Should Devote More Attention to Environmental Justice When Developing Clean Air Rules', GAO-05-289.

Georgia v. Tennessee Copper Co., 206 U.S. 230 (1907).

Glicksman, R.L. et. al. (2003), Environmental Protection: Law and Policy 4th ed.

Gordley, J. (1998), 'Immissionsschutz, Nuisance and Troubles de Voisinage in Comparative and Historical Perspective', in Zeitschrift für Europäisches Privatrecht, vol. 6, pp. 13-29.

Grimeaud, D.J.E. (2004), 'Convergence or Divergence in the Use of 'Negotiated Environmental Agreement' in European and US Environmental Policy: An Overview', in N. J. Vig and M. G. Faure (eds), Green Giants? Environmental Policies of the United States and the European Union, Cambridge: MIT Press.

Hays, S.P. (1987), 'The Politics of Environmental Administration', in Louis Galambos (ed.), The New

American State: Bureaucracy and Policies Since World War II Baltimore: Johns Hopkins University Press, p. 21.

Heine, G. and C. Ringelmann, 'Approximation of European Criminal Legislation', in Environmental Crimes in Europe.

Heringa, A. (2006), 'Human rights and general principles and their importance as a legislative technique. Do they matter in legislation? An analysis with specific reference to environmental protection', in M. Faure and N. Niessen (eds), Environmental law in development. Lessons from the Indonesian experience, Cheltenham, UK and Northampton, MA, US: Edward Elgar.

Hodel v. Indiana, 452 U.S. 314 (1981)

Hunt, D.G. (1978), 'The Constitutionality of the Exercise of Extraterritorial Powers by Municipalities', U. Chi. L. Rev. **45**, 151.

Hurley, A. (1994), 'Creating Ecological Wastelands: Oil Pollution in New York City, 1870-1900', J. Urban History **20**, 340.

Interim Guidance for Investigating Title VI Administrative Complaints Challenging Permits (Feb. 5, 1998).

International Paper v. Ouellette, 479 U.S. 481 (1987).

Jans, J. (2000), European Environmental Law, 2nd ed., Groningen: European Law Publishing.

Jenkins, J.J. Jr. (1994), 'The Airport Noise and Capacity Act of 1990: Has Congress Finally Solved the Problem?', J. Air L. & Com. **59**, 1023.

Johnston, J.S. (1995), 'Bargaining under Rules versus Standards', J. Law, Econ. & Org. **11**, 256.

Johnston, J.S. (2000), 'On the Commons and the Common Law', in R. Meiners and A. P. Morriss (eds), The Common Law and the Environment 211.

Johnston, J.S. (2001), E.W. Orts and K. Deketlaere (eds), The Law and Economics of Environmental Contracts, in Environmental Contracts: Comparative Approaches to Regulatory Innovation in the United States and Europe.

Karsten, P. (1997), Heart versus Head: Judge-made Law in Nineteenth Century America .

Krämer, L. (2002), 'Thirty Years of EC Environmental Law: Perspectives and Prospectives', in Han Somsen et al. (eds), Yearbook of European Environmental Law, vol. 2, Oxford: Oxford University Press..

Krämer, L. (2004), 'The Routes of Divergence: a European Perspective', in N. J. Vig and M. G. Faure (eds), Green Giants? Environmental Policies of the United States and the European Union, Cambridge: MIT Press.

Lavrysen, L. (1995), 'Judicial Responses in the Nineties to Dutch (and German) Shipments of Waste to Belgium in the Eighties', Maastricht Journal of European and Comparative Law, **2**, 219-243.

Lazarus, R.J. (2000), 'Restoring What's Environmental about Environmental Law in the Supreme Court', U.C.L.A. L. Rev. **47**, 703.

Lief, J.A. (1994), 'Insuring Domestic Tranquility Through Quieter Products: A Proposed Product-Nuisance Tort, Cardozo L. Rev. **16**, 595.

Lucus v. South Carolina Coastal Council, 505 U.S. 1003 (1992).

Manhattan Manufacturing and Fertilizing Company v. Van Keuren, 23 N.J.E. 161 (1872).

Marcus, A.A., D.A. Geffen and K. Sexton (2002), Reinventing Environmental Regulation: Lessons from Project XL.

Mazeaud, H., L. Mazeaud, J. Mazeaud and F. Chabas (1994), Leçons de Droit Civil, II, Biens, Droit de propriété et ses démembrements, 8th ed., Paris: Montchrestien.

Mazurek, J. (1999), Making Microchips: Policy, Globalization, and Economic Restructuring in the Semiconductor Industry.

McQulllin Mun. Corp. (2003) , vol. 2, 3rd ed. §7.02.

Merrill, T. (1985), 'Trespass, Nuisance and the Costs of Determining Property Rights', J. Legal Stud., **14**, 13.

Merrill, T.W. (1997), 'Golden Rules for Transboundary Pollution', Duke L. J. **46**, 931.

Milwaukee v. Illinois, 451 U.S. 304 (1981).

Missouri v. Illinois, 180 U.S. 208 (1901).

Missouri v. Illinois, 200 U.S. 496 (1906).

Motavalli, J., 'Toxic Targets', available at http://www.emagazine.com/view/?250+printview.

Muhich, M. (October 2002), 'Shell Victory', The Planet Newsletter, available at www.sierraclub.org/planet/20029/shell_victory.asp.

New York v. New Jersey, 256 U.S. 296 (1921).

Novak, W.J. (1996), The People's Welfare: Law and Regulation in Nineteenth Century America.

Oates, W. (1972), Fiscal Federalism.

Pagh, p. (2004), 'Administrative Criminal Law Systems in Europe: An Asset for the Environment?', in F. Comte and L. Krämer (eds), Environmental Crime in Europe: Rules of Sanctions 159.

Paques, M. (1996), 'Effet directe du droit communautaire, interprétation conforme et responsabilité de l'État, en général et en matière d'environnement', in Jan van Dunné (ed.), Non-point source river pollution : the case of the River Meuse, London : Kluwer Law International, 89-135.

Percival, R.V. (2004), 'The Clean Water Act and the Demise of the Federal Common Law of Interstate Nuisance', Ala. L. Rev. **55**, 717.

Pred, A.R. (1964), 'The Intrametropolitan Location of American Manufacturing', Annals of the Assoc. of American Geographers **54**, 384.

President of the Court of Maastricht, 3 February 1993, Tijdschrift voor Milieuaansprakelijkheid (Environmental Liability Review), vol. 5, 137.

Rauch, J. (13 June 1981), 'EPA Withdrawal from Noise Rules would leave Local Gap' The National Journal.

Revesz, R. (1996), 'Federalism and Interstate Environmental Externalities', U. Pa. L. Rev. **155**, 2341.

Rodi, M. (2002), 'Public Environmental Law in Germany', in R.J.G.H. Seerden et al. (eds), Public Environmental Law in the European Union and the United States: A Comparative Analysis, p. 199.

Rose-Ackerman S. (1992), Rethinking the progressive agenda: the reform of the American regulatory state, New York: Free Press.

Samuelson, W. (1985), 'A Comment on the Coase Theorem', in A. Roth (ed.) Game Theoretic Models of Bargaining.

San Bernadino Valley Audubon Society v. Metropolitan Water District, 71 Cal.App.4th 382, 83 Cal.Rptr.2d 836 (Ct. App. 1999).

Sands, P. (2003), Principles of International Environmental Law, 2nd ed., Cambridge: Cambridge University Press.

Schoenbrod D. (2005), Saving our Environment from Washington.

Seerden, R. and M. Heldeweg (eds) (1996), Comparative Environmental Law in Europe, An Introduction to Public Environmental Law in the EU Member States, Antwerp: Maklu.

Senate report (1983), 'Extending the Noise Control Act'.

Shavell, S. (1984), 'Liability for harm versus regulation of safety', J. Legal Stud., 357-374.

Shavell, S. (1984), 'A Model of the optimal use of Liability and Safety Regulation', Rand Journal of Economics, 271-280.

Shavell, S. (1987), Economic Analysis of Accident Law, Cambridge: Harvard University Press.

Snowden, B.L. (2005), 'Bargaining in the Shadow of Uncertainty: Understanding the Failure of the ACF and ACT Compacts', N.Y.U. Envtl. L. J. **13**, 134.

Solow, S.P and R. A. Sarachan (October 2002), 'Criminal Negligence Prosecutions under the Federal Clean Water Act: A Statistical Analysis and an Evaluation of the Impact of *Hanousek* and *Hon*g', Envtl. L. Rep. **32**, 11153.

South Camden Citizens in Action v. New Jersey Department of Environmental Protection, 274 F.3d 771 (3d Cir. 2001).

Supreme Court of the Netherlands, 23 September 1988, Tijdschrift voor Milieuaansprakelijkheid (Environmental Liability Review), 1989, vol. 1, 15-30.

Tarr, J.A. (1996), The Search for the Ultimate Sink: Urban Pollution in Historical Perspective.

Temmink, H. (2000), 'From Danish Bottles to Danish Bees: The Dynamics of Free Movement of Goods and Environmental Protection – a Case Law Analysis', The Yearbook of European Environmental Law, vol. I, Oxford: Oxford University Press.

United States v. Hanousek, 176 F.3d 1116 (9th Cir. 1999).

United States v. Lopez, 514 U.S. 549 (1995).

United States v. Olin Corp., 107 F.3d 1506 (11th Cir. 1997).

Van den Bergh, R., M. Faure and J. Lefevere (1996), 'The Subsidiarity Principle in European Environmental Law: an Economic Analysis', in E. Eide and R. Van den Bergh (eds), Law and Economics of the Environment, Oslo: Juridisk Forlag, pp. 121-166.

Van Dunné, J.M. (ed.) (1991), Transboundary pollution and liability: the case of the River Rhine, Lelystad: Vermande.

Van Dunné, J.M. (ed.) (1996), Non-point source river pollution : the case of the River Meuse, technical, legal, economic and policy aspects.

Van Gerven, W., J. Lever and P. Larouche (2000), Common Law of Europe: Tort Law, Oxford: Hart Publishing.

Viney, G. and P. Jourdain (1998), Traité de droit civil, Conditions de la responsabilité, 2nd ed., Paris: L.G.D.J.

Vogel D. (1995), Trading up: consumer and environmental regulation in the global economy, Cambridge: Harvard University Press.

Vogel, D. (2004), 'Trade and the Environment in the Global Economy: Contrasting European and American Perspectives', in N. J. Vig and M. G. Faure (eds), Green Giants? Environmental Policies of the United States and the European Union, Cambridge: MIT Press.

Von Wilmowski, P. (1993), 'Waste disposal in the internal market – the state of play after the ECJ's ruling in the Walloon import case', Common Market Law Review, vol. 30, pp. 541-570.

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[1] For a further comparison between EU and US environmental policy, see the critical perspective presented by Krämer. (Krämer 2004, pp. 52-72).

[2] Within the context of this paper, we of course refer to shifting powers from member states to Europe rather than the shifting of powers from the regional to the national level within European member states with a federal structure such as Germany.

[3] For example, the Alkali Act in the UK in 1863 and the Réglement Général pour la Protection des Travailleurs (General Regulations for the Protection of Workers) of 5 May 1888 in Belgium (Moniteur Belge of 13 May 1888).

[4] For example, the pollution of the many transboundary rivers in Europe like the Meuse, Rhine or Danube.

[5] See the Brussels Convention of 27 September 1968 on jurisdiction and the enforcement of judgments in civil and commercial matters.

[6] This follows from Art. 5 of the EC Treaty: "The Community shall act within the limits of the powers conferred upon it by this treaty and of the objectives assigned to it therein". See also Jans 2000, pp. 10-11.

[7] As Karsten summarizes the recent evidence, courts in Ohio, Tennessee, and Delaware balanced the equities and New Hampshire courts employed a similar 'reasonable use' test; those in New York and Pennsylvania oscillated; but in New Jersey, Massachusetts, Maine, Maryland, California and Connecticut, the courts stuck with the English common law 'absolute dominion' view. (Karsten 1997, p. 135).

[8] Brenner noted, 'I conclude that the law of nuisance as it was known at the beginning of the nineteenth century was not being applied in industrial towns.' (Brenner 1974, p. 419).

[9] In French, referred to as 'trouble de voisinage.'

[10] In the original: 'l'obligation de supporter certaines incommodités est indispensable à la vie en commun et constitue une véritable limitation au droit de propriété'.

[11] Application of this principle brought the civil Court of Turnhout to the notable decision that a shepherd whishing to breed sheep who had located himself in the middle of an industrial area has no claim to compensation for the damage caused to his sheep by emissions coming from industry. The shepherd, so the Court held, had freely taken the risk of harm by coming to the nuisance. Civil Court of Turnhout, 17 February 1978, unpublished, quoted by Erwin De Pue, Luc Lavrysen and Patrick Stryckers, *Milieuzakboekje*, Antwerp, Kluwer Rechtswetenschappen, 1998, 663. Even though this decision probably does not represent the common opinion of Belgian legal authority (where a first use, or coming-to-the-nuisance defence is normally not accepted) it nicely illustrates that case law takes into account the use that is made of a specific site to judge whether a particular nuisance has an unreasonable or excessive character and can hence give rise to liability.

[12] It is a basic principle of the American law of municipal corporations (cities and towns) that unless it has specific authorization from the state legislature, a municipal corporation cannot exercise its powers beyond its own boundaries. (2 McQulllin Mun. Corp. §7.02). Eighteen states have statutes that authorize their municipalities to control pollution and refuse disposal in adjacent unincorporated areas. (Hunt 1978, p. 154).

[13] Our discussion of this example is based on Colton 1992, p. 193..

[14] This account is based upon Hurley 1994, pp. 344-360.

[15] Using contemporary estimates that five percent of the crude oil input to the refining process ended up as some form of waste product, by the 1880's, each of New York's refining districts were producing 300,000 gallons of waste material per week.

[16] Our discussion in this paragraph relies heavily on Andreen 2003 throughout.

[17] However, recently substantial emission reductions have occurred as a result of the implementation of European environmental law. See below.

[18] The so-called Bier case 21/76, which is discussed in further detail below.

[19] While the federal Refuse Act was passed in 1899, that law was not a pollution control law but rather a law authorizing the Army Corps of Engineers to regulate commercial waterways to ensure that they

remained navigable. Even the Federal Oil Pollution Act of 1924, whose title might seem to indicate that it was a pollution control law, was actually targeted at oil tanker discharges that had been interfering with navigation in New York harbor; indeed, the law exempted on-shore factories and refineries from regulation. (Hurley 1994, p. 358).

[20] In this interpretation of the cases, we agree with Merrill 1997, pp. 997-998).

[21] The International Court of Justice has had an Environmental Chamber since 1990, but until today no single case has been brought before that Chamber. (Sands 2003, p. 215). .

[22] The European Court of Justice offers no such jurisdiction to victims. Claims by individual citizens are only allowed under restrictive conditions and can more over not be brought against polluters, but only against Member States (or the European Commission) for violation of EU law.

[23] This case was one of a series of cases brought by Dutch market gardeners along the river. For a discussion of this and related cases, see the doctoral dissertation of Gerrit Betlem. (Betlam 1993). .

[24] The Brussels Convention of 27 September 1968 on jurisdiction and the enforcement of judgements in civil and commercial matters. This convention stipulates in Article 5 (3) that 'a person domiciled in a contracting state may, in another contracting state, be suit: in matters relating to tort, delict or quasi-delict, in the courts for the place where the harmful event occurred'.

[25] The case pitted Dutch based plaintiffs suffering harm as a result of emissions of chloride by the Alsatian salt mines in France. More precisely, the ECJ was faced with the interpretation of the phrase 'place of the harmful event,' and held that 'where the place of the happening of the event which may give rise to liability in tort, delict, or quasi-delict, and the place where that event results in damage are not identical, the expression "place where the harmful event occurred" in Article 5 (3) of the convention … must be understood as being intended to cover both the pace where the damage occurred and the place of the event giving rise to it.'

[26] In the 1980s, many victims of water pollution suffered downstream in the Netherlands started lawsuits against upstream polluters in Belgium. For a discussion of these cases see Betlam 1993.

[27] The defendant MPDA argued that it could not be held liable since it held and complied with the terms of its French license. The Court of Appeals held that this license 'does not have the purport that all eligible interests are weighed to such an extent that the licence holder should be shielded from liability in tort'. In

the Hoge Raad decision, the Netherlands Supreme Court affirmed the judgment holding the MPDA liable for the wrongful emissions. (Supreme Court of the Netherlands, 23 September 1988)..

[28] Apparently due to an error in calculating Cockerill's emissions, the president held that there was no direct evidence that the discharges were exceeding 'every reasonable limit,' and ordered Cockerill simply to meet applicable wastewater treatment standards under the the Belgium Surface Water Act and to inform the NGO Reinwater of these results under a penalty of NLG 10 000. (President of the Court of Maastricht, 3 February 1993.).

[29] Nevertheless this decision has also been critized in the literature since courts equally have an obligation to interpret national law in accordance with European law. The question therefore arises why the Dutch courts did not use this possibility to interpret national law in accordance with the directive. For a more detailed analysis see Paques 1996.

[30] In this case, decided by the Court of Appeals of The Hague, the Dutch NGO Reinwater alleged that Sopar NV was emitting high quantites of so-called paks in violation of its Belgian discharge permit and also in violation of the EC Directive of 4 May 1976. 76/464/EC. The Court of Appeals held that since the Directive had not been implemented into national law in Belgium it was not applicable to private citizens (there is not so called horizontal effect). However, considering that Sopar grossly disregarded the conditions of its Belgium permit, the Court of Appeals of The Hague (in the Netherlands) ordered Sopar (under request of Reinwater) to comply with all the conditions of its permit, subject to a penalty of NLG 50 000, for each day that it remained in non-compliance. (Court of Appeals of the Hague, 19 November 1992).

[31] Including international law; it referred inter alia to the well-known trail smelter decision.

[32] In the case of the River Meuse, a so-called international commission for the Meuse was erected in which stakeholders participate which supervises water quality for the River Meuse. (van Dunné 1996). In the case of the River Rhine, an agreement was concluded with polluters to voluntarily reduce emissions. (van Dunné 1991).

[33] In concluding its opinion in New York v. New Jersey, for example, the Court suggested that 'the grave problem of sewage disposal presented by the large and growing populations living on the shores of New York Bay is one more likely to be wisely resolved by cooperative study and by conference and mutual

concession on the part of the representatives of the States so vitally interested in it than by proceedings in any court however constituted.' (256 U.S. 296, 313).

[34] It of course follows on the classic argument of Shavell in favour of regulation based on informational advantages of regulatory authorities. (Shavell 1984, J. Legal Stud. pp. 357-374; Shavell 1984, Rand Journal of Economics pp. 271-280; Shavell 1987 pp. 277-290).

[35] For this criticism as made in the context of controversies over the allocation of interstate water quantities (as opposed to quality) between border States, see Snowden 2005, pp. 153-155.

[36] As environmental historian Samuel P. Hayes has said, when it came to air and water standards, 'environmentalists were convinced that state and local governments were unreliable … Hence they chose to use the federal government for leverage against the states.' (Hays 1987, p. 44)..

[37] P.L. 91-190, January 1, 1970, 83 Stat. 852.

[38] P.L. 01-604, December 31, 1970, 84 Stat. 1705.

[39] P.L. 92-500, October 18, 1972, 86 Stat. 816.

[40] P.L. 92-516, October 21, 1972, 86 Stat. 975.

[41] P.L. 92-522, October 21, 1972, 86 Stat. 1027.

[42] P.L. 92-574, October 27, 1972, 86 Stat. 1234.

[43] P.L. 92-583 October 27, 1972, 86 Stat. 1280.

[44] P.L. 93-205, December 28, 1973, 87 Stat. 884.

[45] These provisions have since been renumbered and now form the articles 174 to 176 EC.

[46] Many commentators describe domestic enforcement as too weak. See especially Krämer 2002, , pp. 178-182.

[47] For a comprehensive, although somewhat dated discussion of environmental constitutional provisions, see Brandl 1992.

[48] See, for example, the decision of the Hungarian Constitutional Court, Decision 28/1994: 20 May 1994, declaring that the right to a healthy environment guaranteed by the Hungarian constitution forbade the Parliament from allowing the privatization of "forest" lands.

[49] For the seminal statement of this principle, which has come to be known as the "matching" principle, see Oates 1972. For a recent application, see Butler 2000.

[50] To say that the Acid Rain trading program effectively dealt with the problem of interstate sulfur dioxide pollution is an overstatement. As argued by Richard Revesz, the interstate trading system suffers from a serious defect in that its national market for permits fails to account for the fact that pollution from sources in upwind midwestern states causes harm to downwind northeastern states (so that allowing Midwestern coal burning electric utilities to simply buy permits may exacerbate the acid rain problem in downwind northeastern states). (Revesz 1996, pp. 2360-2361).

[51] For the court's most significant early statement on the constitutionality of federal environmental laws, see Hodel v. Indiana, 452 U.S. 314 (1981).

[52] One example of this is the case United States v. Olin Corp., 107 F.3d 1506 (11th Cir. 1997).

[53] In this we agree with Lazarus 2000.

[54] The German federal constitution has more specific and stronger states rights protections than does the American constitution, and comprehensive federal air pollution legislation in Germany did not pass until 1974, after the federal constitution had been amended to specifically authorize such federal regulation. See (Dominick 1992, p. 193; Rodi 2002, p. 201) (describing the constitutionally concurrent powers of the Federation and *Länder*).

[55] The most significant opinion remains Lucus v. South Carolina Coastal Council, 505 U.S. 1003 (1992). For a detailed history of the doctrinal development with fascinating historical background on the key cases, see Fischel 1996.

[56] Examples of the latter are the Bathing Water Directive (Directive 76/160, 1976), the Habitat Directive (Directive 92/43, 1992) and the Drinking Water Directive ,(Directive 80/778, 1980). .

[57] The principle emerged in 1963 from the ECJ's holding in the well-known Van Gend & Loos case that the European Community constitutes a new legal order which confers rights not only to the Member States, but also to their citizens. The question whether individual rights could be found directly in Community law was, according to the court, dependent solely upon the contents and wording of the European legislation concerned, with national legislation playing no role in this question. (ECJ 5 February 1963).

[58] One possibility is to use article 30 EC which exempts these prohibitions, inter alia, on grounds of "the protection of health and life of humans, animals or plants".

[59] For a detailed discussion see Doherty 2003.

[60] Moreover, the ECJ remarks that this is so 'even if the national measure in question could be justified by reasons relating to the protection of the environment'. For a discussion see Temmink 2000, p. 90.

[61] This was indeed precisely the problem in the only reported case involving this regulation, Arkansas v. Oklahoma, 503 U.S. 91, 111-112 (1992), where the EPA found that discharges from an Arkansas municipal sewage treatment plant did not cause a detectable violation of water quality standards in Oklahoma, the downstream state, this despite the opinion of Oklahoma officials that the discharges from Arkansas had turned the Oklahoma portion of the __ River into an 'open sewer.'

[62] See Merrill 1997, p. 959, discussing how no state had ever succeeded in getting relief against another state under a provision of the Clean Air Act forbidding pollution from one state that 'contributes significantly' to another state's failure to attain nationally uniform air quality standards.

[63] See 42 U.S.C. § 4901(b) (authorizing "the establishment of Federal noise emission standards for products distributed in commerce"); 42 U.S.C. § 4905 (a)(1)(A) (requiring regulations for products classified as a "major source of noise"). Note that for aircraft, the NCA provided for joint control over regulations between the EPA and the FAA, with the FAA retaining power to reject EPA regulations, which they did with frequency. Jenkins 1994, n. 63.

[64] For example in the well-known Directive 2004/35/7 concerning environmental liability, OJ 2004 L143/56 of 30 April 2004, various important issues such as liability in case of multi-party causation, the justificative effect of following regulation and compulsory insurance are explicitly left to the Member States. For details see the contributions in Gerrit Betlem and Edward Brans (eds.), Environmental liability in the EU. The 2004 Directive compared with US and Member State law, London, Cameron May, 2006.

[65] There is a European Enforcement Agency, but it has no enforcement tasks. (Krämer 2002, pp. 155-182).

[66] The UK has large, fast flowing rivers with higher regeneration capacity.

[67] Our discussion of environmental contracts here draws heavily upon Johnston 2001, p. 271.

[68] For detailed discussions of particular agreements, negotiated pursuant to EPA's Project XL, see Marcus 2002 and Mazurek 1999, pp. 113-197..

[69] For a commentary, see Grimeaud 2004, pp. 159-181.

[70] The Council of Europe is much larger than merely the European Union since it has 46 European participating states (including the 27 Member States of the EU).

[71] For example, in the case of Guerra v. Italy, where the government did not respond to questions for information about the potentially hazardous impact of a neighboring factory, the court found that the right on private life of article 8 had been violated. (ECHR 19 February 1988). In the Giacomelli case, a waste treatment facility had been granted a license in violation of Italian law (no environmental impact study was undertaken). (ECHR 2 November 2006). The Italian environmental ministry had in fact established that the activities of the factory were incompatible with the applicable environmental standards given its location and specific health risks for the neighbors (Mrs. Giacomelli being one of those neighbors). After the faclility had been operating for several years, an environmental impact assessment was done, as a consequence of which the activities of the facility were suspended, yet the ECHR awarded the applicant damages in the amount of € 12 000 for non-pecuniary losses suffered during the period of (illegal) operation.

[72] See particularly the case of Hatton e.a. v. the United Kingdom (ECHR 8 July 2003) concerning noise generated by planes at Heathrow Airport: the court decided that the airport noise was not incompatible with the applicable treaties and that the UK had not exceeded its margin of appreciation, taking into account the economic interests that were at stake (Heringa, 2006, pp. 16-19).

[73] The famous case here is United States v. Hanousek, 176 F.3d 1116 (9th Cir. 1999), *cert. denied*, 528 U.S. 1102 (2000).

[74] The arguments to defend this directive were presented by Françoise Comte. (Comte 2003, pp. 147-156). For a critical reaction to that paper see Faure 2004, pp. 18-29.

[75] The reason that it is possible that two European institutions make (different) legislation with respect to a same topic is that the European Commission is competent within the so-called 'first pillar' to propose directives whereas the Council of Ministers has the possibility to draft Framework Decisions within the so-called 'third pillar' with respect to a limited number of issues (mostly security and justice).

[76] Such power varies greatly across countries, but in Italy, for example, judges have a very broad power to initiate criminal prosecutions. (Di Frederico 1988, p. 178).

[77] Amendola 2004 discusses Italy's contrary progressive decriminalization of environmental violations.

[78] The real question is whether the goal of 'solving national deficits concerning the implementation of EU [environmental] provisions – should be carried out just by means of criminal law.' (Heine pp. 197, 204).

For a discussion of the many problems with the recent environmental crimes Framework Decision, see (Pagh 2004).

[79] 'The European Union (EU) does not enjoy the prerogatives of a state; it may act only where it has been expressly so authorised by the Treaty. Any comparison with domestic environmental law in the Member States, or with that of the USA is therefore necessarily misleading.' (Krämer 2002, p. 155).

[80] The exception being the ECJ's important decision of 13 September 2005 granting the European level competence to force Member States to introduce criminal penalties.