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An Unnatural Divide: How Law Obscures Individual Environmental Harms

Katrina Fischer Kuh
Maurice A. Deane School of Law at Hofstra University

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INTRODUCTION

Humans are part of, depend on, and influence the natural world. This connection and interdependence is undeniable and provides the most basic insight underlying widely accepted concepts of sustainability – we depend on natural resources for our survival and our actions significantly affect the quality, quantity, and condition of those resources. In many important respects, however, the connection between humans and the environment – so readily understood and widely accepted in the aggregate – becomes obscured when disaggregated to the connection between an individual and the environment. This is so both with respect to the ways that individuals harm the environment and the ways that environmental degradation harms individuals. For example, while the total volume of particulate matter emitted annually by personal vehicles is likely known or estimated for each Air Quality Control Region, an individual likely does not have ready knowledge of the volume of particulate matter that she contributes through her own tailpipe emissions. Similarly, while projected increases in asthma rates inform decisions about the permissible level of ambient particulate matter, an individual does not know whether the severity of her asthma can be attributed to ambient levels of particulate matter.

Many of the forces that obscure the connections between individuals and the environment have their origin in extralegal constraints, such as economic forces, cognitive limitations, and the limits of scientific understanding. These constraints are often systemic and, while perhaps influenced by law, not directly a product of law. However, there are some ways in which law perpetuates and exacerbates a misleading and artificial separation between individuals and the environment that promotes a view of the individual as separate from, instead of an interdependent part of, nature. Laws that obscure

the connection between individuals and nature can be grouped into several categories: (1) laws that employ individual exceptionalism, that is, focus on commercial and industrial sources of pollution while turning a blind eye to the environmental harms attributable to individuals; (2) laws that hide the environmental consequences of consumption; and (3) laws that obscure how environmental harms harm individuals.

In short, law sometimes makes it harder for individuals to appreciate both their impact on the environment and how a degraded environment impacts them. Although there may be many legal mechanisms that accomplish this result, this essay looks to the ways law separates the individual from nature by characterizing the human relationship with nature as imbued with particular values (to the exclusion of others) and by restricting the flow of information about the processes and consequences of particular actions. This separation is pernicious because it enables deeply unsustainable practices.

LAWS THAT EMPLOY INDIVIDUAL EXCEPTIONALISM

In many respects, the federal environmental legal apparatus gives individuals a free pass, directing most of its resources to and imposing most of its requirements on commercial and industrial entities and focusing on them as sources of pollution or consumers of natural resources. For example, many core environmental controls come to bear only when levels of pollution or consumption reach minimum thresholds. These thresholds can be so high as to effectively exempt individuals from regulation or simply high enough to preclude the statute's application to many individual activities. Under the Clean Air Act, for example, the Title V permit requirement generally applies only to sources that emit at least 100 tons per year of an air pollutant; similarly, the more stringent controls applicable to new or modified sources of air pollution under the Prevention of Significant Deterioration program generally apply only to major sources that emit 100 tons per year (in certain specified industrial categories) or 250 tons per year of a regulated air pollutant.[1] Under the Clean Water Act, activities that dredge or discharge a volume of less than 25 cubic yards (and with respect to discharge do not result in the loss of more than 1/10 acre of waters of the United States, such as wetlands) can proceed under the streamlined auspices of a Nationwide Permit.[2] Even where the plain language of environmental statutes suggests that they apply to individual conduct, these statutes are sometimes interpreted by courts or agencies not to extend to

[1] 42 U.S.C.A. §§ 7602(j), 7479(1) (2012) (defining major source).
[2] Reissuance of Nationwide Permits, 77 FR 10,184–01, 10,273 (Feb. 21, 2012).

individual conduct. For example, the Environmental Protection Agency (EPA) promulgated a regulation exempting household waste from regulation as hazardous waste under the Resource Conservation and Recovery Act (RCRA),[3] and the Second Circuit reversed the conviction of an individual under the Clean Water Act for discharging a pollutant without a permit, reasoning in part that:

> [h]uman beings are not among the enumerated items that may be a "point source". . . . The Clean Water Act generally targets industrial and municipal sources of pollutants, as is evident from a perusal of its many sections. . . . As the statute stands today, the term "point source" is comprehensible only if it is held to the context of industrial and municipal discharges.[4]

There are a number of reasons for excusing individuals from regulation. In particular, regulating individuals would likely be expensive and hard to administer and enforce such that it might make sense to begin with the largest emitters first to achieve the greatest benefit in the quickest manner possible. Importantly, however, the failure to subject individuals to controls under major environmental statutes should not be taken to suggest that individuals do not cause significant environmental harms. In aggregate, individuals impose significant direct harms on the environment that are growing in relative proportion to the harms from commercial and industrial sources, particularly as those commercial and industrial sources comply with applicable environmental controls.[5] Individuals drive even greater harm on the environment indirectly, as through the consumption of goods and services. For present purposes, however, what is most significant is not the environmental harms that could be reduced but are not as a result of the failure to regulate individuals, but the way that the failure to more frequently and directly regulate individuals affects how individuals understand (or fail to understand) how their actions impact the environment.

In an important sense, the dearth of individual regulation under core environmental statutes presents a missed opportunity. If major environmental laws imposed more direct and more burdensome controls on individuals, the existence of those controls might compel individuals to acknowledge the connection between their actions and the environment. If throwing batteries in the trash was criminalized, the public might be more attuned both to that behavior and the environmental harms that can result from it. The dearth of

[3] 40 C.F.R. § 261.4(b)(1) (2013).

[4] *United States v. Plaza Health Lab's, Inc.*, 3 F.3d 643, 646–647 (2d Cir. 1993) (holding that criminal defendant was not a point source; relying in part on the rule of lenity).

[5] Michael P. Vandenbergh, *From Smokestack to SUV: The Individual as Regulated Entity in the New Era of Environmental Law*, 57 VAND. L. REV. 515, 541–584 (2004) (charting the contributions of individuals to various environmental harms).

environmental controls on individuals under major environmental laws may also obscure the connection between individuals and the environmental consequences of their actions in a less direct but perhaps more pernicious way.

By focusing on commercial and industrial sources of pollution and resource consumption, core environmental statutes might be said to express the view that those commercial and industrial sources are polluters – to be condemned and curbed – while individuals are not.[6] The existing framework of environmental law might, then, discourage individuals from viewing themselves as agents capable of and engaged in actions with meaningful environmental consequences. We most readily recognize that law influences individual behavior by imposing mandates (sanctions for noncompliance) or creating incentives to act in desired ways or disincentives for acting in undesired ways that directly reward or punish relevant behaviors (e.g., tax incentives). Law can also, however, change individual behavior by signaling information about societal values and thereby influencing the creation of norms that in turn influence behavior.[7] Law's lopsided focus on commercial and industrial sources of pollution and veritable free pass for individuals might thus be said to express, or signal, that the contribution of those commercial and industrial entities to environmental degradation is significant and "bad" while the contribution of individuals is not. In the words of one scholar, "[t]he social meanings conveyed by the command and control system may help explain the public's environmental myths, as well as its reluctance to address its role in causing second generation problems."[8]

LAWS THAT HIDE THE ENVIRONMENTAL CONSEQUENCES OF CONSUMPTION

Consumption should be a constant reminder of human interdependence with nature. Blue jeans, for example, are a gift from nature, sewn from cotton and outfitted with zippers, buttons, and rivets from mined copper and zinc. Blue jeans are also an excellent illustration of how our consumption can impact nature. The production and sale of a pair of blue jeans consumes water, energy, and nonprecious metals and may result in a variety of environmental harms, such as the generation of greenhouse gas emissions, pesticide-laced

[6] Michael P. Vandenbergh sets forth this argument in eloquent detail in his essay, *The Social Meaning of Environmental Command and Control*, 20 VA. ENVTL. L. J. 191 (2001).

[7] Cass R. Sunstein, *On the Expressive Function of Law*, 144 U. PA. L. REV. 2021, 2031 (1996) (describing the expressive function of law).

[8] Vandenbergh, *The Social Meaning of Environmental Command and Control*, *supra* note 6, at 219.

nonpoint source runoff, wastes from the chemical dyes used for coloring and/or during the process of distressing or stonewashing, and wastes produced during the mining process.

A chief, albeit indirect, way that individuals impose environmental harm is through the consumption of goods and services, the production or provision of which causes an environmental harm or depletes an environmental resource.[9] The connection between consumption, nature, and environmental harm is so widely recognized that achieving sustainable consumption is a core aim of significant international environmental agreements.[10] Individual consumption is, however, far removed from the basic fact that underlies it – that the production of goods both requires and can foul natural resources. Indeed, it is almost laughable to suggest that the act of buying a pair of blue jeans reminds us of our connection to nature.

Of course, much of the disconnect between consumption and its natural origins and consequences is extralegal, or at least not primarily legal, arising from a confluence of geography, technology, and modern production processes and economies. Goods may be produced thousands of miles from where they are consumed and may consist of raw materials garnered from around the world and then manipulated using processes incomprehensible to the layperson. We could, as a policy matter, critique law for not more aggressively seeking to bridge the gap between consumption and its environmental consequences. More fundamentally, however, in some circumstances law does the opposite – it prevents, discourages, or complicates efforts to connect consumption to its environmental consequences.[11]

International Trade Law

Generally speaking, the General Agreement on Tariffs and Trade (GATT) and related agreements of the World Trade Organization (WTO) prohibit countries from discriminating against products based on the country in which they are produced but permits countries to regulate the importation of

[9] For an excellent explanation of the environmental consequences of consumption and analysis of legal approaches for regulating consumption, *see* James Salzman, *Sustainable Consumption and the Law*, 27 ENVTL. L. 1243 (1997).

[10] *Id.* at 1245–1247 (describing Agenda 21 and other international efforts to make consumption more sustainable).

[11] The environmental consequences of the production of a good constitute one type of "process" information. In his article *Preferences for Processes*, Douglas A. Kysar explains in detail how the legal treatment of process information, including under trade law and the First Amendment, can make it harder for consumers to obtain process information. Douglas A. Kysar, *Preferences for Processes: The Process/Product Distinction and the Regulation of Consumer Choice*, 118 HARV. L. REV. 525 (2004).

products based on legitimate, nonprotectionist interests related to product characteristics.[12] So, for example, the United States can block the importation of children's toys with dangerous levels of lead based on concern about a characteristic of the product itself. When, however, countries seek to regulate the import of products based on the manner in which they are produced – such as the environmental harms generated by their production – the regulation will often be held permissible only if the country can establish that the regulation satisfies an exception set forth in Article XX of the GATT or similar provisions in other WTO agreements.

Two of the Article XX exceptions relate expressly to environmental concerns. Article XX(b) of the GATT permits trade measures "necessary to protect human, animal or plant life or health" and Article XX(g) of the GATT permits trade measures "relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption."[13] These exceptions are not, however, as broad or readily satisfied as a casual reading might suggest. Under the "chapeau" of Article XX, an exception must not be "applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade."[14] Subsequent interpretations have held that to be "necessary," an exception must be based on sound science and not merely consumer (or, presumably, environmentalists') preferences. Other considerations that may be relevant to whether an exception can be invoked include whether there are less trade-restrictive alternatives for achieving the environmental objective, the impact on trade, the perceived importance of the identified environmental objective, the design of the trade measure, and a number of others.[15] More importantly, decisions of the WTO Appellate Body suggest that there may be a jurisdictional limitation on the invocation of one or more of the exceptions, namely a requirement that there be a "nexus" between the environmental benefit or harm that a trade measure is aimed at and the country imposing the trade measure.[16] Thus, while it may be possible to invoke an

[12] General Agreement on Tariffs and Trade art. III(2), Oct. 30, 1947, 61 Stat. A-11, 55 U.N.T.S. 194.

[13] GATT 1947 art. XX(b).

[14] *Id.*

[15] For a helpful overview of the application of the Article XX exceptions under the GATT in the context of environmental matters, *see* World Trade Organization, WTO Rules and Environmental Policies: GATT Exceptions, *available at* http://www.wto.org/english/tratop_e/envir_e/envt_rules_exceptions_e.htm (last visited Feb. 7, 2012).

[16] Appellate Body Report, United States – Import Prohibition of Certain Shrimp and Shrimp Products, P 133, WT/DS58/AB/R (Oct. 12, 1998) (declining to decide whether there is "an implied jurisdictional limitation in Article XX (g)" and finding that, in this case, there was a

Article XX exception to impose a trade measure on the grounds that the production of a good causes an environmental harm to the importing country (e.g., retreaded tires that, when disposed of in the importing country, create hazardous waste, or shrimp caught using practices that harm a species located at least in part in the importing country), it may not be possible to invoke an Article XX exception to impose a trade measure on a good on the grounds that the production of the good causes an environmental harm that does not directly affect the importing country (e.g., a restriction on the import of retreaded tires to avoid the creation of hazardous waste *in the exporting country*, or a restriction on the import of a product because its production harms a species located entirely outside the territory of the importing country). The significance of such a jurisdictional limitation for present purposes is that it would effectively prevent a country from adopting a trade measure (consistent with the GATT) aimed at a good because of the negative environmental effects of the good's production elsewhere in the world.

Although the treatment of environmental process standards under the GATT is evolving, and both the existence and scope of a jurisdictional limit are undetermined, the following characterization seems fair: it is somewhat difficult – when it is possible at all – for a country to restrict the import and sale of products based on environmental harms occasioned during their production, particularly where those harms occur primarily or exclusively outside of the importing country.[17] This aspect of international trade law obscures how consumption harms the environment in a number of ways.

First, the process/product distinction and possible jurisdictional limitation could have an expressive effect. Namely, the posture of trade law toward environmental process information could be taken to signal that process harms need not or should not be connected to consumption or even that importing countries and consuming individuals do not bear responsibility for the process impacts of consumption. That international trade law makes it harder for countries to give effect to preferences regarding process harms (e.g., require that goods be produced in environmentally responsible ways) communicates that process harms aren't as important as product characteristics that can be more readily regulated.

Similarly, to the extent that there is a jurisdictional limitation regarding process harms, international trade law further expresses a parochial view of the

"sufficient nexus between the migratory and endangered marine populations [sea turtles] involved and the United States for purposes of Article XX (g)").

[17] It may even be difficult for an importing country to require that a product be labeled to reflect process information. Kysar, *supra* note 11, at 548–552 (describing challenges to product labeling requirements under the Agreement on the Application of Sanitary and Phytosanitary Measures and the Agreement on Technical Barriers to Trade).

relationship between consumption and the environment that contravenes core concepts of sustainability. The jurisdictional limitation suggests that when consuming goods, countries and their citizens have a significant interest primarily or only in environmental process harms that manifest locally. Moreover, that countries are constrained in their regulation of imported goods based on environmental process attributes may also have a chilling effect on domestic dialogue about process harms and consumption. The belief that environmentally based process requirements would violate WTO agreements might suppress legislative proposals and debate. If it was more feasible for the United States to (legally) impose a suite of process criteria on imported products, it is easy to imagine the domestic debate that would likely attend the development of those criteria and, with that debate, the ensuing education about the connection between consumption and environmental process harms.

In sum, when goods are produced in one country and sold in another, there is already a physical distancing between environmental process harms and consumption that makes it challenging for individuals to understand and value the harms associated with consumption. In some sense, international trade law exacerbates this physical distancing by making it harder to use policy to close the physical gap between place of production and place of consumption and address extraterritorial process harms associated with domestic consumption. This contributes to an artificial "cleansing" of consumption that holds consumption apart from the environmental harms incurred to support it.

First Amendment

First Amendment doctrine can also contribute to the artificial cleansing of consumption by preventing or complicating the adoption of laws to require the provision of process information (e.g., a law requiring that goods be labeled to indicate an estimated carbon footprint). As with the permissibility of process-focused trade measures under the GATT, First Amendment commercial speech doctrine is evolving and the extent and scope of First Amendment restrictions applicable to environmental process information are not yet settled. As set out in more detail below, current doctrine suggests a number of ways in which the First Amendment could be interpreted and applied that would prevent or complicate government efforts to require the provision of environmental process information. Courts might find that there is not a strong enough state interest in providing consumers with environmental process information, thereby preventing the government from requiring that commercial entities provide such information. Additionally, even if courts

find that the government has a broad interest in requiring the provision of environmental process information, courts might determine that the particular regulation of speech at issue is not adequately tailored to achieving that interest. It is not yet clear what level of tailoring will be required to uphold a government regulation that compels speech by requiring producers to disclose environmental process harms. Under rational basis review, the government would only need to show that the disclosure requirement was reasonably related to its interests; under intermediate review, the government would need to show that the regulation directly advanced a substantial government interest and was not more extensive than necessary.

If the government sought to require the provision of information about the environmental harms associated with the production or sale of a good or service (e.g., by requiring a label on the product), the government requirement would likely be deemed compelled commercial speech.[18] To survive a First Amendment challenge, a law that compels commercial speech must serve a legitimate state interest and, if intermediate scrutiny applies, that interest must be substantial. A threshold question under the First Amendment with respect to any government effort to require that consumers be provided with environmental process information is, then, whether the government has a legitimate interest in providing environmental process information to consumers. Some Second Circuit case law suggests that it might not.

In *International Dairy Foods Association v. Amestoy*, the Second Circuit relied on the First Amendment to strike down a Vermont statute that required labels to identify any milk or milk product produced using the synthetic bovine growth hormone rBST and sold in Vermont.[19] Requiring labeling regarding the use of rBST provides an example of process information because, at least at the time the case was decided, government regulators could not discern any substantive difference in the product (milk) based on whether cows were treated with rBST. Thus, the only identified difference between milk from cows treated with rBST and milk from cows not treated with rBST derived from whether that hormone was used in the process that generated the milk. The majority on the Second Circuit panel that decided *Amestoy* characterized Vermont's rationale for adopting the law narrowly,

[18] The First Amendment might constrain other strategies for improving consumer access to information about the environmental consequences of consumption, for example regulating advertising or claims about environmentally friendly production processes. For an overview of First Amendment constraints in the ability of the government to regulate advertising to promote environmental sustainability, *see* Neil Gormley, *Greening the Law of Advertising: Prospects and Problems*, 42 TEX. ENVTL. L. J. 27 (2011).

[19] 92 F.3d 67 (2d Cir. 1996).

stating that "Vermont's sole expressed interest was . . . 'consumer curiosity,' "[20] or the desire of its citizens to know whether they were purchasing milk treated with rBST. The panel went on to hold that this did not constitute a strong enough interest to uphold the law:

> We do not doubt that Vermont's asserted interest, the demand of its citizenry for such information, is genuine; reluctantly, however, we conclude that it is inadequate. We are aware of no case in which consumer interest alone was sufficient to justify requiring a product's manufacturers to publish the functional equivalent of a warning about a production method that has no discernable '[sic] impact on a final product.' ... Although the Court is sympathetic to the Vermont consumers who wish to know which products may derive from rBST-treated herds, their desire is insufficient to permit the State of Vermont to compel the dairy manufacturers to speak against their will. Were consumer interest alone sufficient, there is no end to the information that states could require manufacturers to disclose about their production methods. For instance, with respect to cattle, consumers might reasonably evince an interest in knowing which grains herds were fed, with which medicines they were treated, or the age at which they were slaughtered. Absent, however, some indication that this information bears on a reasonable concern for human health or safety or some other sufficiently substantial governmental concern, the manufacturers cannot be compelled to disclose it. Instead, those consumers interested in such information should exercise the power of their purses by buying products from manufacturers who voluntarily reveal it.[21]

The *Amestoy* decision raises significant questions about whether courts, analyzing challenges to the compelled provision of environmental process information, would find that the government has a sufficient interest in providing such information to consumers to justify those laws under the First Amendment. *Amestoy* does not present this question squarely because, at least according to the panel majority, Vermont did not identify the prevention of environmental or other process harms (such as harms to cows treated with rBST) as a rationale for the labeling law. Additionally, the Second Circuit has since clarified that its holding in *Amestoy* "was expressly limited to cases in which a state disclosure requirement is supported by no interest other than the gratification of 'consumer curiosity.' "[22] Nonetheless, as evinced in the passage

[20] *Id.* at 73, n.1.

[21] *Id.* at 73–74.

[22] *Nat'l Elec. Mfg. Assoc. v. Sorrell*, 272 F.3d 104, 115, n.6 (2d Cir. 2001) (upholding Vermont law imposing labeling requirements on some products containing mercury based on "Vermont's interest in protecting human health and the environment from mercury poisoning").

excerpted above, the *Amestoy* decision at minimum evidences judicial skepticism of the value of process information in First Amendment review.

Notably, this potential First Amendment vulnerability is specific to environmental *process* information. Where a product itself contains an environmentally harmful substance, such as mercury, labeling of the product based on that characteristic does not present the same difficulties. And interests in environmental protection and even in the reduction of consumption can constitute legitimate state interests under the First Amendment's commercial speech doctrine.[23] However, the difficult question is whether the disclosure of environmental *process* information to consumers can likewise support a sufficient state interest.

Even if courts recognize that the government has a legitimate interest under the First Amendment in providing consumers with environmental process information, laws requiring that producers or sellers provide environmental process information might still fall on First Amendment grounds if the laws are not viewed as adequately tailored to promoting that interest. The level of scrutiny to be afforded to compelled commercial speech not directed to preventing consumer deception – of which a requirement to provide environmental process information for a product or service is a specific type – is presently uncertain.[24] The standard of review that is ultimately adopted will significantly impact the scrutiny applied to (and ease of adopting) mandatory environmental labeling.

In *Central Hudson Gas & Electric Corp. v. Public Service Commission of New York*, the Supreme Court struck down a ban on promotional advertising by a utility and articulated the following test, characterized as intermediate scrutiny, to be applied to the regulation of commercial speech:

> In commercial speech cases, then, a four-part analysis has developed. At the outset, we must determine whether the expression is protected by the First Amendment. For commercial speech to come within that provision, it at least must concern lawful activity and not be misleading. Next, we ask whether the asserted governmental interest is substantial. If both inquiries yield positive

[23] *Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm'n of N.Y.*, 447 U.S. 557, 570–571 (1980) (suggesting that compelled commercial speech might be appropriate to advance the state of New York's legitimate interest in reducing energy consumption: "To further its policy of conservation, the Commission could attempt to restrict the format and content of Central Hudson's advertising. It might, for example, require that the advertisements include information about the relative efficiency and expense of the offered service, both under current conditions and for the foreseeable future").

[24] For an excellent overview of unresolved questions relating to the First Amendment analysis of compelled commercial disclosure, *see* Jennifer M. Keighley, *Can You Handle the Truth? Compelled Commercial Speech and the First Amendment*, 15 U. PA. J. CONST. L. 539 (2012).

> answers, we must determine whether the regulation directly advances the governmental interest asserted, and whether it is not more extensive than is necessary to serve that interest.[25]

Five years later, in *Zauderer v. Office of Disciplinary Counsel of the Supreme Court of Ohio*, the Supreme Court applied far less exacting rational basis review to a rule requiring that attorneys advertising contingency fee services state whether clients would be liable for costs in cases that were unsuccessful.[26] The *Zauderer* Court upheld the compelled disclosure on the ground that it was "reasonably related to the State's interest in preventing deception of consumers."[27]

The circuits are presently split as to whether the lower *Zauderer* standard of review applies to all compelled disclosure cases (in which case *Central Hudson Gas's* intermediate scrutiny would apply primarily to instances of restricted speech) or whether *Zauderer's* rational basis standard applies only where speech is compelled for the purpose of preventing or mitigating consumer deception.[28] If the former view prevails, then mandatory environmental process labeling would likely be subject to rational basis review; if the latter view prevails, then mandatory environmental process labeling would likely be subject to intermediate scrutiny. Whether an environmental process labeling requirement would satisfy either standard would depend in part on the precise regulation in issue, but it is clear that it would be far more difficult to satisfy the intermediate scrutiny required by *Central Hudson Gas*. Notably, in that case, the government argued that its ban on the utility's advertising was justified in part to support energy conservation. The court found that the state of New York had a legitimate interest in promoting energy conservation but concluded that the ban was not sufficiently tailored to promoting that interest – "the energy conservation rationale, as important as it is, cannot justify suppressing information about electric devices or services that would cause no net increase in total energy use."[29]

In sum, any measure requiring that products be labeled to reveal one or more environmental process harms would likely need to be justified by some

[25] 447 U.S. 557, 566 (1980).
[26] 471 U.S. 626 (1985).
[27] *Id.* at 651.
[28] *Compare Nat'l Elec. Mfg. Assoc. v. Sorrell*, 272 F.3d 104, 113–116 (2d Cir. 2001), & *Pharmaceutical Care Management Ass'n v. Rowe*, 429 F.3d 294 (1st Cir. 2005) (applying Zauderer to diverse state interests) with *R. J. Reynolds Tobacco Co. v. FDA*, 696 F.3d 1205 (D.C. Cir. 2012) (holding that the *Zauderer* review standard applies only to regulation aimed at preventing consumer deception).
[29] 447 U.S. at 570.

showing under the First Amendment; the precise content of that showing and the concomitant obstacle potentially posed by the First Amendment to process labeling remain unclear. Putting aside possible First Amendment constraints, there are numerous questions about the utility and methods of environmental process labeling.[30] Yet the treatment of such efforts under the law, like the marginalization of process and extra-jurisdictional harms under the GATT, illustrates the exculpation of consumerism as an environmental harm.

LAWS THAT OBSCURE HOW ENVIRONMENTAL HARMS HARM INDIVIDUALS[31]

It is hard to imagine an adult in the United States today who has not experienced some negative effect of environmental degradation. Even after the implementation of the core suite of federal environmental laws, millions live in areas (or have friends or families that live in areas) that do not meet national air quality standards for criteria air pollutants; those pollutants have been shown to cause or contribute to everything from coughing and sore throats to asthma, lowered IQ in children, aggravated emphysema, and premature death. We are all exposed to more intense cancer-causing UV-B rays as a result of the depletion of the ozone layer. The quality of many of our surface waters is degraded – tens of thousands of water bodies do not meet state water quality standards.[32] The long-term environmental and human health effects of a significant number of the chemicals presently in use have not been thoroughly assessed (or in some cases assessed at all) in particular with respect to the potential for synergistic affects when combined with other chemicals. It is clear, however, that we are exposed to a range of chemicals in our lifetime – a variety of industrial chemicals have been found in the human body, in breast milk, and even in polar bears. It has long been estimated that 10,000 people die each year from cancers related to environmental exposure;

[30] *E.g.*, Peter S. Menell, *Structuring a Market-Oriented Federal Eco-Information Policy*, 54 MD. L. REV. 1435 (1995) (critiquing labels as an eco-information policy).

[31] I use the term "harm" loosely, but for an excellent examination of the meaning of harm in environmental law, *see* Albert C. Lin, *The Unifying Role of Harm in Environmental Law*, 2006 WIS. L. REV. 897 (2006). Professor Lin calls for a more thoughtful and expanded conception of harm in environmental law and observes that "many of our activities can, and do, cause harm to others. . . . [T]he harm principle's most important role today may be to serve as a reminder of our interconnectedness." *Id.* at 984.

[32] For a list of impaired waters, *see* EPA, National Summary of Impaired Waters and TMDL Information, *available at* http://iaspub.epa.gov/waters10/attains_nation_cy.control?p_report_type=T (last visited Feb. 22, 2013).

some argue that estimate is far too low.[33] Although the pervasiveness and extent of environmental degradation suggests the likelihood that many individuals are impacted, we do not know how many people have suffered or the precise harms that they have suffered, let alone how environmental degradation has touched a particular individual. In some important sense, then, we lack crucial insight about an important aspect of our relationship to nature – how our impacts on nature in turn impact us.

Some information about how environmental degradation harms individuals is simply unknowable. Even through scientific inquiry, we have yet to identify effective fingerprints of many hazardous inputs and hence have been unable to understand how they might affect human health and the environment. Administrative and cost burdens impose a constraint on the development of information about how individuals experience environmental harms. However, law can and does exacerbate these scientific and administrative constraints in important ways, particularly in the context of chemical exposure, so as to further obscure how environmental harms harm individuals. Tort law places burdens on plaintiffs that make it difficult to obtain recovery for many harmful environmental exposures and also creates disincentives for those who produce, distribute, use, or emit chemicals as products or waste (collectively, chemical purveyors) to study or publicize the human and environmental effects of those substances. Similarly, environmental statutes in many cases do not require or incent chemical purveyors to evaluate the long-term safety of their products or wastes.[34] While the public may assume that the government carefully scrutinizes and protects it from harmful exposures, in fact the mechanisms that are in place to understand our exposure and response to the chemical soup of modern life are far less comprehensive. Together, these forces limit our understanding of how environmental harms harm us both directly, by failing to require or discouraging the production of information; and indirectly, by diffusing the motivation of others (personal injury lawyers, the public) to demand or develop that information.

[33] Brett Israel and Environmental Health News, *How Many Cancers Are Caused by the Environment?* SCIENTIFIC AMERICAN (May 21, 2010), *available at* http://www.scientificamerican.com/article.cfm?id=how-many-cancers-are-caused-by-the-environment (last visited March 8, 2013).

[34] Wendy E. Wagner has produced a large body of work that identifies and explains in detail how environmental law and tort law contribute to ignorance of the environmental and human health effects of products and wastes. *E.g.*, Wendy E. Wagner, *Commons Ignorance: The Failure of Environmental Law to Produce Needed Information on Health and the Environment*, 53 DUKE L.J. 1619 (2004) [hereinafter Wagner, *Commons Ignorance*]; Wendy E. Wagner, *Choosing Ignorance in the Manufacture of Toxic Products*, 82 CORNELL L. REV. 773 (1997) [hereinafter Wagner, *Choosing Ignorance*].

Tort law is far too blunt an instrument to accurately identify and compensate those suffering from toxic environmental exposures.[35] An individual diagnosed with cancer, for example, may have been exposed to numerous (hundreds, thousands of?) carcinogens in her lifetime – secondhand smoke, indoor air pollution, outdoor air pollution, natural carcinogens in food, pesticide residues on foods, leaching chemicals from food containers, alcohol, UV rays – or bear other risk factors for cancer (genetic predisposition, obesity). Moreover, she may be aware that she was exposed to a carcinogen in only a fraction of those instances and know the source and/or extent of the exposure in a fraction of that. Even if her cancer was in fact caused by exposure to a particular pollutant or chemical, she is unlikely to know it was.

Moreover, even if she fell within the relatively small subset of instances of toxic environmental exposure most amenable to tort redress – she had a known and significant exposure to a suspect chemical from a known source – she would still face significant challenges to prevail on a tort claim. To satisfy causation, she would be required to "prove by a preponderance of the evidence that, but for the defendant's tortuous conduct with respect to the toxic substance, [she] would not have suffered harm," usually by establishing both general causation (that exposure to the chemical in question can cause cancer of the type she suffers) and specific causation (that her cancer was caused by the chemical).[36]

The predominant and most readily accepted method for satisfying general causation is by reference to epidemiological studies that can be cost and time intensive and have not been conducted for many chemicals. Even if our plaintiff marshals adequate epidemiological evidence to show general causation, she must still show specific causation. With respect to specific causation, the Restatement admonishes that "courts should consider all of the evidence ... and determine whether ... the evidence would permit a reasonable jury to find that plaintiff's disease more probably than not was caused by exposure to the agent" and some jurisdictions allow plaintiffs to rely on differential diagnosis, or a process by which a doctor attempts to discern whether an illness was caused by a chemical exposure by eliminating other possible causes of the illness.[37] However, the most well-established method – and one required in some jurisdictions – for showing specific causation is to produce evidence showing that exposure to the chemical is more likely than

[35] For an excellent, in-depth analysis of the challenges that tort law poses to recovery for toxic environmental exposures, *see* Albert C. Lin, *Beyond Tort: Compensating Victims of Environmental Toxic Injury*, 78 S. CAL. L. REV. 1439, 1445–1452 (2005).

[36] RESTATEMENT (THIRD) OF TORTS § 28 cmt. c (2010).

[37] *Id.*

not the cause of the illness by offering "group-based evidence finding that exposure to an agent causes an incidence of disease in the exposed group that is more than twice the incidence in the unexposed group."[38] In many instances, then, our plaintiff may be unable to satisfy the requirements for causation, perhaps because adequate epidemiological data do not exist or perhaps because the chemical in question increases risk but does not double it.

Requirements for recovery in toxic tort arguably decrease individuals' awareness of the risks that they bear and the harms that they may suffer from exposure to pollutants and chemicals. First, in part because of the informational obstacles facing plaintiffs and the burden of proving causation, it has been argued that with respect to toxic torts, and environmental exposures in particular, the tort system is likely underinclusive – there are likely many instances in which an individual's exposure to one or more chemicals makes that individual sick, but the individual does not and cannot obtain compensation through the tort system. How does this affect awareness of how a degraded environment harms individuals? It is easy to imagine that in a world in which those harmed by environmental exposures were more accurately identified and/or more often compensated (recovery might, by design, be made overinclusive), individuals might be more attuned to the connection between their health and the environment. Individuals might be more likely to be plaintiffs, more likely to be successful plaintiffs, or even simply aware of the claims and success of other plaintiffs.

Additionally, and perhaps more importantly, the tort system may stunt the development of better information about when and how chemical exposures impact health and the environment.[39] Plaintiffs bear the burden of proving causation but may lack access to the information or funds necessary to support research into chemical safety. This can in effect give chemical purveyors "practical immunity for remaining ignorant about the latent hazards of their products and byproducts" and thus create a disincentive for chemical purveyors – presumably in the best position to access relevant information – to invest in extensive safety testing.[40] It should be no surprise that individuals do not appreciate the extent to which environmental degradation causes them harm if we do not know the health effects of chemical exposures.

[38] *Id.*

[39] Wagner, *Choosing Ignorance*, *supra* note 34. As a matter of comparative institutional competence, however, tort law may sometimes be more effective than regulation with respect to revealing or generating information about harms, in particular with respect to "exposing suppressed adverse research." Wendy Wagner, *When All Else Fails: Regulating Risky Products through Tort Litigation*, 95 GEO. L. J. 693, 711 (2007).

[40] Wagner, *Choosing Ignorance*, *supra* note 34, at 791–795.

Finally, while the structure of tort law may make it difficult to hold commercial/industrial chemical purveyors liable, it makes it virtually impossible to hold individuals liable. Thus, as under the statutory regime, individuals largely get a free pass and will not be liable for harms arising from environmental problems that they contribute to in ways that are individually de minimis but collectively significant (e.g., harms from air pollution that tailpipe emissions contribute to).[41] In this way, tort law perpetuates norms of industry as a "polluter" and not individuals. Tort law may thus not only obfuscate the connection between environmental harms and harms to individuals but also how individuals contribute to environmental harms.

In sum, there are likely instances in which a chemical exposure harms an individual but it is beyond present scientific capabilities to connect the harm to the chemical or source.[42] In those instances, tort law likely precludes recovery. There are also likely instances in which a chemical exposure harms an individual and the scientific data needed to establish causation are knowable but not known, perhaps in part because tort law dissuades chemical purveyors from investing in the development of that information, again likely precluding tort recovery. And there are also likely instances in which a chemical exposure harms an individual and data exist connecting the chemical to the harm, but the data do not show a sufficient connection between the chemical and the individual's harm to satisfy the requirements of specific causation, again perhaps precluding tort recovery. In short, we simply do not know the full scope of harms that an individual swimming in our modern chemical soup experiences, and in some ways tort law abets or exacerbates this ignorance.

We could, of course, require that chemical purveyors conduct studies to assess and publicize information about the safety (or harms) of their products and byproducts or that regulators undertake this evaluation before allowing chemicals into our environment. The public may assume that law already requires this. In reality, however, toxics regulation is far less comprehensive, constituting more of a patchwork quilt. The Toxic Substances Control Act (TSCA), which governs the use of most (nonpesticide) chemicals in the United States, does not require that the safety of chemicals be shown prior to their use. Chemical manufacturers must file a premanufacture notice (PMN) and submit any toxicity data that they have, but manufacturers often

[41] *But see* Nathan Ostrander, *Consumer Liability for Harms Linked to Purchases*, 2 ARIZ. J. ENVTL. L. . . . POL'Y 111 (2012) *(arguing that electronic records might render it possible to impose liability on individuals for harms arising from their consumption).*

[42] *Id.* at 777–782 (distinguishing trans-scientific uncertainties and preventable scientific uncertainties).

submit no toxicity data with a PMN. The EPA possesses the authority to require further testing and/or limit the use of chemicals, but to do so it must make specified findings under the TSCA statute.[43] In 1998, EPA found that basic toxicity information was unavailable to the public for nearly half of the chemicals produced or imported at more than one million pounds per year and that full toxicity information was available for only 7 percent of those chemicals.[44] EPA has since made significant progress, using voluntary initiatives, data developed internationally, and rulemakings under TSCA, toward developing more toxicity data about high-production-volume chemicals, although information gaps remain.[45]

Many would likely be surprised at our incomplete understanding about the impacts of our activities on the environment. One scholar refers to our lack of knowledge as a "pervasive commons ignorance";[46] another scholar laments that "[t]he public . . . in effect becomes guinea pigs. . . ."[47] This lack of information is due in part to the failure of our environmental laws to effectively require or generate that information and even in some cases discourage its production.[48] This may contribute directly to ignorance about how environmental harms harm individuals by preventing the development of data that could reveal that connection with greater clarity. Additionally, to the extent that people assume that government is capable of and does protect them from potentially harmful toxic environmental exposures (or at minimum has enough information to evaluate the extent to which they are protected), that belief might perpetuate a blind spot about how toxics introduced into the environment might be harming us. I will have little reason to worry about toxics in the environment or my exposure thereto if I mistakenly believe that omniscient regulators protect me (or at least make reasoned judgments about the extent to which I will be protected) from harms to my health from environmental exposures.

CONCLUSION

The previous discussion should not necessarily be taken as a critique of the specific policy approaches and legal doctrines discussed. There are many

[43] 15 U.S.C.A. §§ 2603–2605 (West 2013).

[44] EPA, Chemical Hazard Data Availability Study (1998).

[45] For an overview of EPA's efforts, visit EPA, Existing Chemicals, *available at* http://www.epa.gov/oppt/existingchemicals/index.html (last visited Feb. 20, 2013).

[46] Wagner, *Commons Ignorance*, *supra* note 34, at 1625, 1631.

[47] Carl F. Cranor, Toxic Torts: Science Law and the Possibility of Justice 163 (2006).

[48] Wagner, *Commons Ignorance*, *supra* note 34 (examining how environmental laws contribute to the lack of information about the environmental effects of industrial activities).

legitimate reasons to focus regulatory resources on industrial sources of pollution, to value and seek to promote free trade, to scrutinize when and how the government can compel speech, and to require plaintiffs to prove causation. These policies and doctrines may, however, influence how individuals understand nature and specifically their relationship to nature. In important ways, they can make it harder for individuals to recognize how their actions impact the environment and vice versa. This may, in turn, obscure the connection between individual and nature.

One potential consequence of this law-exacerbated disconnect between individuals and nature is that it may perpetuate unsustainable practices. In many ways, law determines the objects of our attention and value. We have long-term needs for productive natural capital, and so any sustainable strategy will require us to value our reliance on nature through law. At present, however, law not only fails to direct our attention or values to natural capital but in some ways obscures our reliance and impact on nature in ways that *discourage* valuing or recognizing the need to protect nature. As an intellectual and policy matter, the need to achieve sustainable consumption has long been clear. More than twenty years ago, Agenda 21 decried: "[T]he major cause of the continued deterioration of the global environment is the unsustainable pattern of consumption and production, particularly in industrialized countries. . . ."[49] Meaningful on-the-ground progress toward the goal of changing consumption patterns has, however, proved elusive. This is in part because "issues of sustainable consumption go to the very heart of societal norms such as lifestyle, equity, and cultural identity-issues that cannot be easily resolved in the legislature or courtroom."[50] It is questionable whether sufficient will to limit the environmental harms flowing from the American lifestyle can coalesce in the absence of a far more realistic and popularly understood conception of how individual lifestyles depend on and impact the environment. For this reason, the disconnect between individuals and nature may need to be remedied to support meaningful progress toward sustainability.

[49] Report of the U.N. Conference on Environment and Development, June 3–14, 1992, Annex II, Agenda 21, ¶ 4.3., U.N. Doc A/CONF.151/26 (Aug. 12, 1992).

[50] Salzman, *supra* note 9, at 1256.